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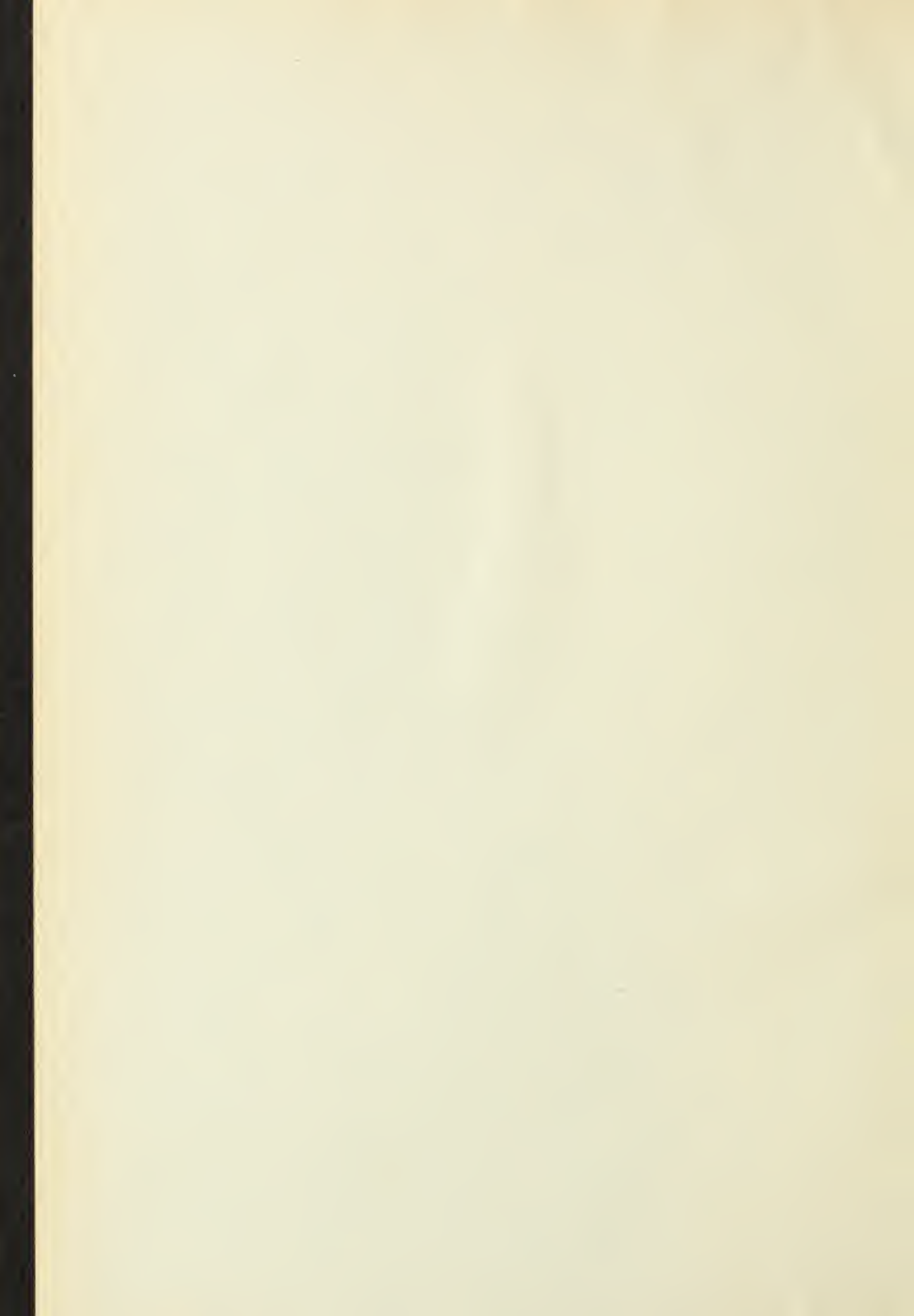
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PRESENT CONCEPTION OF RADIATION IN THE TREATMENT OF CANCER*†

ARTHUR C. CHRISTIE, M.D., Washington, D. C.

Cancer still ranks next to the top in mortality tables and there is little room for doubt that the incidence of the disease is increasing. It is true that the increased frequency in tables of vital statistics is partly due to more accurate diagnosis and reporting of the disease, but allowing for this there is no question that at least some types of carcinoma are on the increase. Even this real increase, however, is at least partly accounted for by the increased average age of the population of civilized countries. Within a brief period the average age in the United States has risen from forty-five to fifty-seven years and we have the paradoxical condition of an increase in the incidence of cancer due to improvements in medical science which enable people to live longer.

In spite of this gloomy aspect of the picture there is a brighter side in the substantial improvement that has occurred in the recent past in the treatment of cancer. A much larger percentage of fairly early cases are now being seen than was the case a few years ago. The widespread educational campaign for this purpose is bearing fruit, but there is still room for great improvement in this respect. Both the laity and the profession must realize more fully than they do at present the vital importance of treating cancer while it is still localized at its site of origin. It is especially important for the general practitioner to leave nothing undone to establish a diagnosis in any suspicious case. The importance of early recognition is well illustrated by the statistics of surgical treatment of cancer of the breast. When the disease is localized to the breast, surgery can cure from 75 to 80 per cent but when the axillary nodes are involved the curability falls to 20 per cent or less, even in the most skilled surgical hands.

It is not only in early recognition of the disease

that advance has been made, but within the recent past real improvements have taken place in the treatment of cancer which have greatly raised the percentage of cures in certain fields and have prolonged life and made it comfortable in hopeless cases. These improvements are, for the most part, in the field of radiation. They consist not only in improvements in apparatus for roentgen therapy and advances in the technic of application of both the roentgen ray and radium, but in a changed attitude on the part of the medical profession which permits the use of these agents in patients favorable for cure. The recent results have been so encouraging that every medical man should be thoroughly informed as to the present status of radiation in cancer therapy.

The rational basis of radiation therapy in cancer reverts to the early discovered fact that the embryonal types of cells are more sensitive to radiation than are adult forms. The sensitivity peculiar to each kind of cell appears to be related to its life cycle. The shorter the life cycle the more sensitive it is to irradiation. Lymphocytes have the shortest life cycle and are the most sensitive to irradiation; bone and nerve cells have the longest life cycle and are the most resistant. This fact of radiosensitivity is thoroughly established and is fundamental in cancer therapy. It is this alone which enables us to destroy cancer cells with the x-ray and radium without permanent harm to the surrounding normal tissues composed of cells of an adult type. It is only comparatively recently we have come to understand that another factor in addition to the radiosensitivity of the cancer cells is important; namely, the reaction within the surrounding healthy tissues, the cancer bed.

The explanation of the fact that some cancers show marked initial regression under irradiation, but ultimately reach a point where there is no further effect, is probably due to several factors. One of these is the fact that cancers are usually composed of masses of cells which vary in resistance. Those of the highly cellular, non-differentiated type are radiosensitive while those contain-

* Presented before the Eighty-fifth Annual Session, Iowa State Medical Society, Des Moines, April 29 and 30, and May 1, 1936.

† From The Radiological Clinic of Drs. Groover, Christie and Merritt.

ing much fibrous tissue and with considerable differentiation are relatively radioresistant. Broders has classified them as types I, II, III and IV, the first being the most radioresistant and the fourth the most radiosensitive. The more radiosensitive cells are destroyed by the early treatment while those that are radioresistant to the particular dose administered, persist. Repetition of an equal dose will not destroy the radioresistant cells any more than did the initial dose. If radiation is to accomplish additional good in such cases it must be given in a larger dose than that originally administered and this is often inadmissible because of injury which may result to the surrounding normal tissues. Another factor which may terminate the beneficial effects of irradiation is the permanent change which occurs in the surrounding healthy tissues. They will sooner or later reach the point where they can no longer react to irradiation. The ideal now aimed at is to apply the total radiation dose in such a manner as to secure the optimum relation between destruction of the neoplastic cells and the reaction in the normal tissues.

Recently devised methods constitute an important advance in respect to proper and efficient dosage in irradiation of cancer. Except in superficial cancers located where there are no important structures which may be injured and which it is possible to destroy by the caustic effect of radiation, the single massive dose method has been abandoned. Some type of fractional dosage method is now in general use. The Coutard method is the one now usually employed. It consists in giving a small dose each day over a prolonged period (eighteen to thirty-five days), until a very large total dose is given, an equal amount of radiation being given each day. Essential factors in the method in addition to the prolonged period of administration are relatively high voltage (at least 200 kilovolts) and heavy filtration (one to two millimeters of copper or its equivalent). The results obtained by this method, to which I will refer later, are superior to any previously thought possible.

In attempting to appraise the present value of radiation therapy in cancer we must keep in mind the fact that results up to the present moment have been obtained over a period of time during which the technic of treatment has been constantly changing. This has been due to new discoveries and inventions of apparatus and to a constantly widening experience. During most of this time the attitude has been, and rightly so, that radiation was in an experimental stage. Except in skin cancer, up to very recent times, it was considered unjustifiable to treat by radiation

any but the most advanced and hopeless cases and to use it as an adjunct to whatever surgical methods were thought advisable. Now, because of results obtained in large numbers of primarily inoperable and seemingly hopeless conditions and in recurrences after operation, and because of improvements in results when used in conjunction with surgery, the attitude toward radiation has radically changed. Some conditions which were formerly in the surgical field, notably cancer of the cervix uteri and many types of skin cancer, are now given over to radiation therapy alone; in others wide dissections and removal of regional glands has been replaced by radiation treatment of the primary growth, roentgen and interstitial radiation of regional nodes and perhaps surgical removal of glands which persist after such treatment; that is, radiation has become, in these cases, the primary method instead of being used as an adjunct to surgery. In other regions of the body the question of operability is now being scanned with much greater care than was formerly the



Fig. 1.

Fig. 2.

case, since it has become known that in many cases formerly considered operable, but in which percentage of cure is low, better results may be obtained by radiation alone or by radiation preceding surgery.

With these preliminary considerations in mind, let us proceed to an appraisal of the place of radiation in various types of cancer. It is obviously impossible to discuss the subject exhaustively in an address such as this but I shall try to point out the principles involved by considering somewhat in detail several different regions of the body.

The first patient is a woman forty-nine years of age. The lesion on the lower eyelid is of three years' duration. Fig. 1. It was found to be a basal

cell carcinoma, which is as you know, not a very malignant disease, practically never metastasizing to other parts of the body. It can almost always be cured in any one of a number of ways, complete excision, electrocoagulation or by a caustic dose of x-rays or radium; but whenever these basal cell carcinomas are located where there is underlying cartilage, they become a much more difficult problem for treatment. They are very difficult to excise without causing deformities, and irradiation, especially by radium, will produce changes in the cartilage which are worse than the original tumor; that is, a perichondritis, which is exceedingly painful, and necrosis of the cartilage, which produces a chronic ulceration that makes the second condition of the patient much worse than the first. We learned a number of years ago that, interstitially or in any other way, it is bad practice to use radium in carcinoma close about cartilage, either of the eyelids, the nose or the ear; but we have found by this new method of

Figure 3 shows another patient with a small tumor at the inner canthus of the eye. This patient was given 6400 r units. You see it makes a rather ugly-looking reaction, Fig. 4, but one which, as Figure 5 shows, completely heals with soft, pliable skin, and no injury to the cartilage. I look upon this treatment of tumors in close relation to cartilages as a real triumph in therapy, because only a few years ago the results in such cases were very unsatisfactory.

Figure 6 shows a similar lesion, basal cell carcinoma, or really a transitional cell type, on the ear, another location in which it was found to be very difficult to cure the cancer without producing a necrosis of the cartilage of the ear.

Figure 7 shows the final results, with complete healing, and a soft scar, without any injury to the cartilages.

Figure 8 illustrates cancer of the lip and the in-



Fig. 3.

Fig. 4.

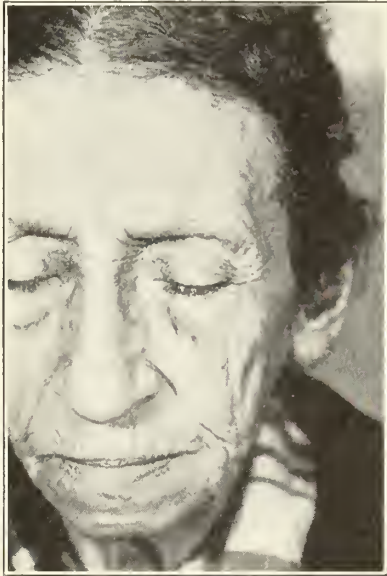


Fig. 5.

irradiation by x-rays, the Coutard method, that we can give a dosage of irradiation through a heavy filter, sufficient to cure the basal cell carcinoma and yet not injure the cartilage. This patient was given 5100 r units of radiation over this tumor, a very large dose. I call your attention, too, to the fact that in this case we placed a little piece of lead, covered with soft rubber, dipped in mineral oil, behind the eyelid, so that the irradiation did not strike the eyeball. By such a large dose of irradiation as 5100 r units, we would injure the eyeball so as to produce a chronic conjunctivitis, or atrophy in the structure of the eye. Figure 2 shows the case after it has completely healed, with normal skin; the tumor is gone. The cartilage has not been interfered with and there is no conjunctivitis.

side of the cheek, a type of cancer which is very dangerous. Formerly it was treated by a wide V-shape dissection. If there was any glandular involvement at all, the dissection included a block dissection of the glands of the neck. I am going to read the history of this case because I think it teaches a number of very important lessons in regard to the way we should deal with this type of lesion. The patient was a male, fifty-nine years of age. He had had leukoplakia on the lower lip for a number of years. About six months ago he had a superficial ulcer of the mucosa of the lower lip, near the angle of the mouth. The ulcer was about two by three centimeters, the base not indurated, no palpable submaxillary or cervical

nodes. At the time we first saw him, the patient would not submit to treatment for urgent private reasons. He returned six months later when he had this rather large, fungating mass. The patient had had syphilis when he was a young man.



Fig. 6.

Fig. 7.

but for many years the Wassermann-Kahn reaction had been negative. It is well known that syphilis is a bad complication for cancer about the lip or tongue or throat. It is a complication that occurs in anywhere from 30 to 40 per cent of these cases. It always ought to be recognized and treated. The vascular changes that take place in syphilis greatly hamper the treatment of cancer of the lip and tongue. A piece of the tumor was submitted to Dr. James Ewing, after it had been treated with 1300 to 1500 r units. I am emphasizing that because I think it is important to irradiate these tumors before biopsy in order to lessen the danger of the spread of cancer at the time of the biopsy. Dr. Ewing stated that the specimen represented epidermoid carcinoma of the squamous infiltrating type, Grade II. "Rather radioresistant," he said. "The lesion is fully malignant, although the cauliflower form of the tumor is more favorable than the basal variety, but there appears to be an infiltrated submaxillary gland." The patient did have, at the time we saw him, when we took this picture, a gland under the edge of the jaw, a hard gland that was evidently an extension of his cancer.

During the period from September 11th to October 5th the patient was given 2850 r units anteriorly to the chin and lip and the same amount laterally to the submaxillary region and lip, the two areas overlapping. The total dosage was 5700 r units given at 200 kilovolts, and with two millimeters of copper filter at the rate of about 250 r units per day. It will be noted that the treatment was finished on October 5th.

The subsequent notes on the case are as follows: On October 12th there was intense blistering. The fungating lesion within the mouth had entirely disappeared. This was only seven or eight days after the treatment was completed. There remained some induration of the mucosa. On October 18th the skin reaction was beginning to subside, as was also the mucous membrane reaction. On October 26th the lesion had entirely disappeared from the buccal mucosa. Reaction from the treatment was still slightly evident. The submaxillary gland was about one centimeter in diameter. The next thing, of course, was to deal with this submaxillary gland, which was the most dangerous condition. On October 30th we placed 10 radon seeds, each containing .3 millicurie of radon in and around this palpable lymph node, a total of 3221 millicurie hours. On November 6th the patient was very comfortable, with very little reaction. On November 15th there was an intense epithelitis over the buccal mucosa and a dusky red reaction of the skin in the region of the implantation. Such treatment makes the patient very uncomfortable for a while, and produces an intense skin and mucosal reaction. On November 30th the mucosa of the cheek and the alveolar process were entirely healed. At the site of the adenopathy there was some induration but no definite gland could be discerned. On December 13th the lesion had entirely healed; there was some thickening of the mucosa below the chin but no palpable gland. At the present time, eighteen months after this treatment, the patient is well and has had no recurrence. Fig. 9.

Figure 10 shows a case of carcinoma of the inside of the cheek. This patient was forty-one years of age. He had soreness of the right cheek of two



Fig. 8.

Fig. 9.

months' duration. A biopsy, after some irradiation, showed squamous cell carcinoma. He was given 5200 r units in twenty days to the outside of the cheek and 1100 milligram hours of radium to the inside of the cheek. In this case we used

the radium not interstitially, but simply placed it against the cancer. I wish to emphasize that point because I believe it is important to do it in that way wherever possible. By puncturing it, you do exactly what the surgeon has to do, that

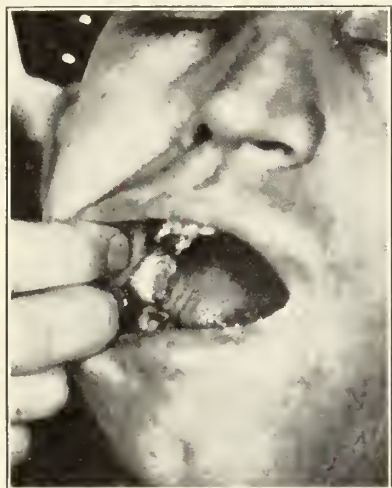


Fig. 10.

is, you traumatize the cancer and run the danger of disseminating the cells into the lymphatics. Therefore, we used 1100 milligram hours of radium element against the cancer, on the inside of the cheek.

Figure 11 shows the reaction on the cheek. If the treatment had been given by the old method, in a massive single dose, or without high filtration, it would not have healed. The deep structures of the skin and even the muscle itself would have been irreparably damaged; but with this method of treatment these lesions invariably heal and leave no scarring and no induration of the skin.

Figure 12 shows the final results in this case; the skin has entirely healed and is soft and pliable. Of course, again, we are not sure that we have cured that cancer; it is quite possible that we have not. This patient must be observed at least every month, and watched carefully for any evidence of recurrence.

Figure 13 shows the more dangerous type of cancer of the tongue, a large, deep, indurated cancer. In these cases we always want to do a biopsy as soon as possible after giving radiation, to find out the type of cancer. In this case we were dealing with a Grade III cancer, so that it was radiosensitive. We were able to destroy completely the cancer by radiation and electrodesiccation, and the patient recovered. Fig. 14.

We do not have time this morning to go into the general treatment of cancer of the lip and mouth and throat, but it may be said in passing

that cancers of the tongue are much more dangerous than cancers of the lip because of their method of metastasis. They often metastasize to the glands in the lower part of the cervical region just above the clavicle and sometimes to the glands down behind the clavicle and the sternum. They metastasize directly to those regions, while cancer of the lip has a direct connection only to the superior cervical glands. It makes cancer of the tongue, for that reason, a much more difficult disease to treat successfully. The first thing that should be done with such patients is thorough roentgen irradiation to both sides of the neck. After a considerable amount of irradiation has been given over the neck, the local lesion can then be treated by the implantation of radium and the final eradication of any small, indurated edge that may remain, by electrodesiccation.

The principal additions to knowledge in recent years, which have improved results in the fight against cancer may be summarized as follows:

First, the fractional method of roentgen irradiation with high voltage, heavy infiltration, and protracted time of administration has been perfected and constitutes an important advance.

Second, a better understanding has developed concerning the rôle of the normal tissue environment of a malignant growth and of the necessity of securing a proper relation between destruction of the cancer cells and reaction in the cancer bed.

Third, there is a gradually increasing knowledge of the value of preoperative irradiation.

Fourth, a better appreciation is evident concerning the danger of traumatizing cancer and also of the fact that such danger can be lessened by preliminary irradiation.

Fifth, there is a better grasp of the rôle of the regional lymph nodes and of the necessity to preserve them as intact as possible, as a barrier to spread of cancer cells and, at the same time, to destroy cancer cells already lodged there.



Fig. 11.

Fig. 12.

Hope for further advance in the immediate future lies in increased application of the knowledge already at hand. Early diagnosis and treatment are just as important for radiation therapy as for surgery, although many patients with

cancer in the far advanced stage, in whom surgery would be hopeless, may be cured or materially benefited by radiation treatment. It is particularly important that cancer patients be given the benefit of the latest methods of radiation therapy especially in those conditions in which surgery has been used for many years and has shown only a small percentage of permanent cures.



Fig. 13.

Fig. 14.

I will say, in conclusion, that the keynote to the best treatment in cancer of all types is co-operation among general practitioners, radiologists and surgeons, because each of them must have some part in the diagnosis, treatment and general management of almost every patient who is suffering from this dangerous disease.

DIAGNOSIS AND TREATMENT OF SIMMONDS' DISEASE (PITUITARY CACHEXIA)* †

JAMES A. GREENE, M.D., Iowa City

Recent advances in our knowledge of the physiology of the pituitary gland have aroused widespread interest in diseases which may be attributed to dysfunction of this gland. It has now become definitely established that acromegaly and gigantism are due to hyperfunction of the eosinophilic cells of the anterior lobe, and overactivity of the basophilic cells may underlie the syndrome described recently by Cushing.¹

The fatal syndrome of progressive weakness and cachexia which was noted by Paulesco² in 1907 following removal of the pituitary gland had been described in man prior to this date, but it was not appreciated that atrophy of the anterior lobe was the primary etiologic factor until Simmonds³ pointed it out in 1914. Simmonds' disease, pituitary cachexia, cachexia hypophyseoprivia, and cachexia with fatal termination are the more common names under which the disease has been described. That it is rare is shown by the fact that

Calder⁴ was able to find only seventy cases reported in the literature from 1899 to 1931.

The outstanding subjective and objective manifestations are: emaciation; intolerance to cold; loss of hair; loss of teeth; anorexia; vomiting; constipation; weakness; premature senility; edema of legs; mental changes; amenorrhea in female or loss of libido in male or female; dryness of the skin; low arterial pressure; muscular wasting; atrophy of the internal genitalia; trophic changes in the nails; abnormally low body temperature; low basal metabolic rate; increase in sugar tolerance; and a secondary anemia may be present. The pathologic alterations discovered at necropsy in the various cases include primary atrophy, neoplasm, infection, embolism, syphilis, tuberculosis of the anterior lobe of the pituitary gland; reduction in the size of the heart, liver, kidneys, and pancreas; and atrophy of the thyroid, parathyroid and adrenal glands, and the ovaries and testes.

The prominent features of the disease have been discussed admirably by several authors, particu-

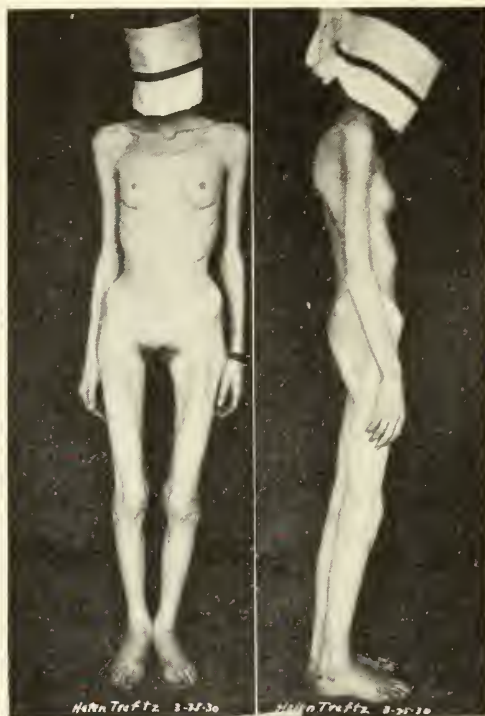


Fig. 1 shows the extreme emaciation which may develop from psychoneurosis and gastro-enteric symptoms (Case 9, Table I).

larly Calder⁴ and Silver⁵. The difficulties encountered in the diagnosis and treatment, however, require further emphasis. Some of them are illustrated by ten patients observed at the University Hospitals in whom the diagnosis of Simmonds' disease was seriously considered. The clinical fea-

* Presented before the Eighty-fifth Annual Session, Iowa State Medical Society, Des Moines, April 29 and 30, and May 1, 1936.

† From the Department of Internal Medicine, State University of Iowa College of Medicine, Iowa City, Iowa.

tures which are shown in Table I were sufficiently characteristic. The variations in degree of emaciation are shown in Figures 1 and 2. Only two of the ten patients (Cases eight and ten, Table I) were thought to have Simmonds' disease, and subsequent observations which are summarized in Table II tend to confirm this impression. It will be noted that only one of the patients who were followed for a time failed to gain weight. Five were considered to be in good health when last observed, but amenorrhea was known to have persisted in two.

The diagnosis of pituitary cachexia is admittedly difficult, and Silver⁵ thinks that it should be considered proved only when confirmed by post-mortem examination. It may be simulated by malnutrition as shown by the data of Table III. It is easy as a rule to exclude the more common causes of cachexia, such as neoplasm, chronic infection, etc., but that which develops from psychoneurosis and gastro-enteric symptoms may be difficult. The malnutrition in five of our ten cases (Table I) was undoubtedly due to the latter cause and in three others it was very likely. The fact that the secondary sex characters do not regress in emaciation from other causes may be of distinct value in the male, but in the female it is difficult to be sure of this point. Menstruation may cease in patients with cachexia and return with improvement of nutrition (Case 4, Table I and Case 3, Table III). Conversely, it may cease in obesity and return with loss of body weight. Since the external genitalia are not materially altered it may be difficult at times to be sure that the prostate gland and seminal vesicles and the uterus are atrophied. The prostate was small in one of our patients (Case 10, Table I) and the uterus was thought to be small in two (Cases 1 and 4, Table I). It should be borne in mind, however, that malnutrition may prevent the proper growth of the genitalia and

secondary sex characters if it occurs during the age of development. Uncontrolled diabetes may alter the nutrition sufficiently, and two of several such patients returned to the hospital about one and one-half years after the diabetes had been controlled.

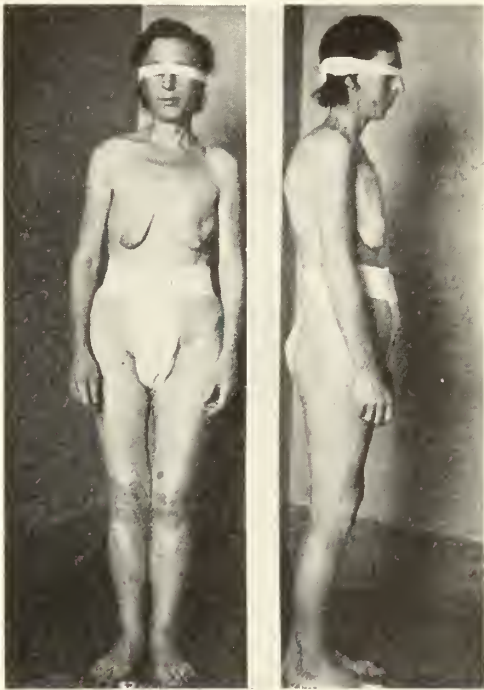


Fig. 2 shows the other extreme of the state of nutrition observed in our ten cases (Table I).

Menstruation had begun in one and the other was pregnant.

The skin changes which are said to resemble those seen in myxedema are considered by Reye⁶ to be characteristic enough for the diagnosis to be made in the precachectic stage. In our cases such changes were not sufficiently pronounced to be of diagnostic value. Theoretically, measurement of

TABLE I

Case	Sex	Age	Weight loss, lbs.	Sensitive to cold	Anorexia	Vomiting	Constipation	Weakness	Premature senility	Amenorrhea	Loss of libido	Mental symptoms	Duration	Emaciation	Loss of hair	Loss of teeth	Dry skin	Blood pressure	Edema	Muscular wasting	Atrophy of genitalia	Trophic nails	Subnormal Temperature	Basal metabolic rate	Glucose tolerance	Sella turcica	Visual fields	Neuropathology	Weight
1	F	38	49	+	—	+	—	+	+	+	+	—	1 yr.	+	—	—	+	96/64	—	+	+	—	—	—19	norm.	+	0	—	82
2	F	38	49	+	+	+	+	+	+	+	+	+	5 yr.	+	+	—	0	100/70	—	+	—	—	—	+ 0	dec.	+	0	0	86
3	F	26	45	0	+	+	+	+	—	+	0	+	1 yr.	—	—	—	0	135/100	+	0	—	0	—	—28	dec.	—	+	—	117
4	F	22	30	+	+	+	—	0	—	+	+	+	3 yr.	+	—	—	+	110/75	—	—	+	0	—	—15	dec.	—	—	—	85
5	M	24	50	+	—	+	+	0	—	0	+	+	2 yr.	+	—	—	+	110/80	—	—	—	—	—	—30	0	—	—	—	98
6	F	19	40	+	+	+	—	+	—	+	0	—	9 mo.	+	0	—	0	120/94	—	0	0	0	—	—23	0	—	—	—	81
7	F	34	0	+	—	—	+	+	—	—	+	+	2 yr.	0	+	—	+	140/80	—	—	—	+	—	+12	dec.	?	?	0	108
8	F	25	44	+	—	—	+	+	—	+	0	—	2 yr.	+	+	—	+	90/60	+	0	0	0	+	—9	dec.	—	—	—	65
9	F	19	25	0	—	—	+	—	+	+	0	+	1 yr.	+	+	0	+	118/80	+	+	—	0	+	—43	0	0	0	—	65
10	M	32	22	+	+	+	+	+	0	0	+	—	4 mo.	—	+	+	+	102/75	—	+	—	0	—	—35	norm.	—	+	+	125

+ positive — negative 0 no data.

glucose tolerance should be of diagnostic aid in pituitary cachexia, because the tolerance increases in animals after removal of the pituitary gland. It has varied, however, in the cases reported in the literature, and was not increased in our two patients. A low basal metabolic rate arouses suspicion of Simmonds' disease when present in a patient with malnutrition, but it is not a specific diag-

exclude, but the absence of pigmentation of the skin and mucous membranes, and a negative salt deprivation test with a high potassium intake are against Addison's disease. It should be remembered, however, that adrenal atrophy occurs in Simmonds' disease and therefore, theoretically, the salt deprivation test may be positive. According to Silver⁵, the rare pluriglandular syndrome can usually be differentiated from pituitary cachexia by the presence of symptoms referable to more than one endocrine. A great deal of difficulty, however, was encountered by Weinstein⁷ in his case, and he quotes Kraus⁸ as stating that it is usually impossible to differentiate the two diseases pathologically unless the pituitary involvement is strikingly different from that of the other glands.

The treatment should consist of measures to improve the nutrition as well as to replace the hormones. A high caloric liquid or soft diet, which contains an adequate quantity of protein, vitamins, and minerals should be given in five small meals daily. The amount of rest and of exercise prescribed should depend upon the general condition of the patient. Extracts of the anterior lobe of the pituitary gland should be injected subcutaneously or intramuscularly because when given orally

nostic aid. The syndrome may be simulated by Addison's disease, which should be considered in the differential diagnosis. It may be difficult to

TABLE II

Case	Duration of follow up	Weight gained pounds	Symptoms and Signs	
			Sensitive to cold.	Dry skin.
1.	5 months	20 lbs.	Amenorrhea. Basal metabolic rate —25%. Blood pressure 104/80.	Basal metabolic rate —11%.
3.	18 months	48 lbs.	Vomits occasionally. Menstruated once. Physical examination normal. Basal metabolic rate —11%.	
4.	8 months	yes—amt. not known	Vomited occasionally. Physical examination negative. Menstruating.	
5.	8 months	27 lbs.	No symptoms. Working.	
6.	2 years	32 lbs.	No symptoms. Working. Amenorrhea.	
8.	7 months	lost	Died in coma, suggesting Addison's disease. No autopsy.	
9.	20 months	54 lbs.	No symptoms. Working. Going to dances. Amenorrhea (?).	

TABLE III

Case	Weight loss, lbs.	Hair loss	Teeth loss	Amenorrhea or loss sex. libido	Mental change	Emaciation	Dry skin	Blood pressure	Atrophy of Genitalia	Subnormal Temperature	Glucose tolerance	Basal Metabolic rate	Autopsy or other Diagnosis
Greene	I 49	—	—	+	—	+	+	96/64	+	—	norm.	—19	—
	II 49	+	—	+	—	+	0	100/70	—	—	dec.	# 0	—
	III 45	—	—	+	+	—	0	135/100	—	—	dec.	—28	—
	IV 30	—	—	+	+	+	+	110/75	+	—	dec.	—15	—
	V 50	—	—	+	+	+	+	110/80	?	—	0	—30	—
	VI 40	0	—	+	—	+	0	120/94	0	—	0	—23	—
	VII 0	+	—	#	+	0	+	140/80	—	—	dec.	+12	—
	VIII 44	+	—	+	—	+	+	90/60	0	+	dec.	— 9	Died
	IX 25	+	—	+	+	+	+	118/80	—	+	0	—43	—
	X 22	+	—	+	—	—	+	102/75	—	—	norm.	—35	—
Farquharson & Graham	I 51	+	+	+	+	+	+	80/60	0	elv.	inc.	—23	—
	II 60	—	+	+	+	+	+	75/35	0	elv.	dec.	—34	Autopsy
	III 0	+	0	—	+	+	+	80/60	0	elv.	inc.	—49	—
Britton & Field	I 0	+	0	+	0	+	—	85/	0	+	0	0	Autopsy
Aitken & Russell	I +	—	—	0	0	—	+	105/80	0	+	?	+12	Autopsy
Riecher & Curtis	I 68	+	0	+	0	+	+	98/70	—	—	inc.	—36	—
	II 10	+	—	+	0	+	—	130/70	0	0	inc.	—18	Autopsy
	III 20	+	0	+	0	+	+	120/70	0	0	inc.	—28	—
Malnutrition	I 30	—	—	pregnant	0	+	+	98/64	—	—	0	0	Autopsy Ulcerative colitis
	II 39	—	—	+	0	+	+	98/50	—	—	0	—25	Gastric neurosis
	III 55	0	0	+	0	+	0	128/90	+	+	0	—29	Subacute nephritis, recovery
	IV 27	0	0	—	0	—	0	135/80	—	—	0	+37	Graves' disease
	V —	0	0	+	—	+	0	94/75	+	—	0	+ 5	Malnutrition
	VI 0	0	0	—	0	+	0	120/75	+	+	dec.	+ 5	Malnutrition
	VII 20	+	+	—	—	+	+	135/80	+	—	0	+ 0	Malnutrition
	VIII 75	+	+	+	0	+	—	133/90	—	—	0	— 2	Fever, cause unknown
	IX 67	0	+	+	0	+	—	100/70	—	—	0	0	Asthma

+ positive — negative. 0 no data.

they have been valueless. The results reported in the literature with parenteral administration have varied. Farquharson and Graham⁹ and Weinstein⁷ did not observe any benefit in their patients, and we were unable to demonstrate any effect in one patient (Case 8, Table I) after thirty-three daily injections of one cubic centimeter of a commercial extract of the anterior lobe of the pituitary gland. On the other hand Calder¹⁰ reported striking and prompt improvement in his patient when a commercial extract was used. Prolan preparations have been used by Hicks and Hone¹¹, Herman¹², and Hawkinson¹³ all of whom report remarkable improvement; but our patient (Case 10, Table I) who received fifteen daily injections of two cubic centimeters of a commercial prolan preparation showed no change.

Since atrophy of the other endocrine glands occurs in Simmonds' disease it has been suggested that extracts of the thyroid and parathyroid glands, and adrenal cortex should be used. Our poor results and some of those reported in the literature may have been due, in part, to the fact that these extracts were not administered. It is well to bear in mind, however, that although extracts of the anterior lobe of the pituitary gland are available, their potency, indications, and contraindications are not well established, and in spite of some reports of spectacular improvement in Simmonds' disease following their use, in our opinion, the prognosis in these cases is always grave.

SUMMARY

1. The clinical diagnosis of Simmonds' disease is comparatively easy to make, but unless confirmed by postmortem examination it should be regarded as no more than a working hypothesis.
2. The two diseases with which it is most likely to be confused are psychoneurosis with gastroenteric symptoms, and Addison's disease. Regression of secondary sex characters is probably of greatest aid in differentiating the former, and absence of pigmentation of the skin the latter.
3. The treatment should consist of measures to improve the nutrition as well as to replace the hormones. Extracts of the anterior lobe of the pituitary gland should be given parenterally and extracts of other endocrines may be needed.
4. The prognosis is grave.

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THE THREE STEPS TO HEART FAILURE*

ELMER E. KOTTKE, M.D., Des Moines

The three steps to heart failure are familiar to all of us for with these three symptoms we have contact daily in our study of cardiac patients. One, two or even all three of these symptoms are usually present in patients with congestive failure. Of much more importance, however, is that these three symptoms are also our earliest evidence of beginning myocardial failure and it is here that they assume such importance. Because of their importance in the diagnosis of early heart failure, they are still not receiving the attention they should.

Early heart failure is still not being diagnosed as soon as it should be. In this respect, cardiology lags far behind the early diagnosis of pulmonary tuberculosis. Why is there no campaign for an earlier diagnosis and treatment of heart failure? Why should not the public be educated as to the significance of these early symptoms as it has been and is regarding the importance of a persistent cough, pleurisy and hemoptysis? Are we not too much inclined to relax in our chairs waiting for people to come to us with congestive failure? Should we not change our methods, our approach, and attempt to diagnose failure in a much earlier stage? Are we not at the present time treating too many patients with congestive heart failure and too few patients to prevent congestive failure? The treatment of heart failure in the earliest stage offers opportunities far superior to those present after congestive failure has once appeared. Many will think that in this way we would create many cardiac neurotic individuals, but in my mind that is a tragic excuse. If necessary, let us have a few more neurotic patients, but let us also have fewer

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of those hopeless cardiac invalids for whom we can do so little.

In spite of all our modern appliances, early heart failure must still be diagnosed from an exact history which is obtained by an examiner who is alert to the significance of these three symptoms and can elicit them. Sir James Mackenzie used to say "The physician should be told to throw away the stethoscope and taught to elicit the symptoms of early heart failure". Dr. Kauffman of the Vienna heart clinic, appreciating their significance, used to call these symptoms the "three steps to heart failure".

Let us study the most important of these three symptoms, first, dyspnea on effort. Dyspnea may be defined as an increase in the rate, or rate and depth, of respiration, associated with subjective sensations of air hunger. Our discussion will be restricted to cardiac dyspnea. We do not know all of the causes of dyspnea, but perhaps one of the most important is the acidosis constantly incident to this condition. The failing heart is unable to propel the blood through the arterial bed with sufficient velocity to remove completely the products of metabolism from the tissues. Carbon dioxide and acid metabolites accumulate in the tissue cells and in the blood stream. The respiratory center, bathed in the relatively acid blood, responds with an increase in its rate of discharge. The dyspnea produced in this way is, however, obviously futile because mere hyperventilation cannot overcome the effects of the inefficient circulation.

Dyspnea of cardiac origin is characterized by being progressive. First the myocardial reserves are weakened and this defect is evident only temporarily. As the reserves are further depleted and finally lost, the incompetence of the heart to maintain an adequate circulation is demonstrated constantly. Dyspnea is not in itself abnormal. No matter how healthy we may be, on sufficient exercise we all become breathless. Dyspnea is abnormal when it appears in unusual circumstances. The individual first notices breathlessness when he is engaged in his regular duties which formerly caused no distress. At times, it will be difficult to elicit a clear history of dyspnea. For example, a butcher, forty-one years of age, was being examined. The patient's complaint was that he had lost his dexterity in handling beef. A part of his duty was to swing a side of beef, weighing about 240 pounds, from a wagon to a meat hook. This he had done for about seven years, and workers of this type acquire a certain dexterity which permits them to lift enormous weights, often out of proportion to their physical makeup. He was not com-

plaining of dyspnea but of a loss of dexterity. On close interrogation, it was found that this loss of dexterity was due to the fact that the patient could not hold his breath during the strain of lifting. Here the early onset of dyspnea masqueraded under the loss of dexterity, and only an exact and intelligent history could determine this. As myocardial failure progresses, the patient begins to experience dyspnea with less effort. This progression may be gradual and extend over months and years or it may occur in definite steps.

We must learn to evaluate dyspnea, not by the amount of distress it produces, but rather by the amount of physical effort required to produce it. Lewis grades dyspnea as follows: breathlessness occurring when walking quickly, or uphill, on walking on the flat, on walking slowly short distances, later it is present at rest. Dyspnea in the first two instances must be elicited in the history for when found in the latter two instances there are usually also objective evidences of heart failure in venous congestion. As the congestion increases, dyspnea becomes more evident and distressing until finally it is also present at rest. Hence, venous congestion is a late manifestation of heart failure, but dyspnea on effort is an early one.

It is important that we determine for ourselves whether breathlessness is present. It is common for people to misunderstand its meaning. Frequently, patients complain of breathlessness which on further study and observation proves not to be true dyspnea but some peculiar disorder of breathing which they may describe as "inability to get a full breath," "taking deep sighs," etc. The difficulty is usually found at rest, when excited, when under a nervous strain, or when tired. There are two types of this peculiar breathing; first, the sighing type which consists of a series of deep, sighing or yawning respirations, the rate being little altered but the depth greatly increased. The patient may complain of a sense of weight, oppression or constriction in the thorax which initiates the attack. Characteristic of this type is that the end of each respiration is accomplished with effort as if some obstruction was present. Different degrees may exist ranging from an occasional sigh or yawn to attacks lasting hours and even days. The second and less common type is the panting type which occurs in attacks, and is characterized by rapid, deep and forceful breathing which may last for hours and days. Recently I saw a patient with this type of breathing, who had been told she had heart disease and was being given digitalis. This type is most unusual in organic heart disease and when found in association with the sighing type is diagnostic. Our evidence indicates that these two

types are nervous in origin and not indicative of cardiovascular disease.

Of the numerous tests that have been used for estimating cardiac efficiency or inefficiency, we still have no device that approaches in accuracy and delicacy, this symptom of dyspnea on effort. Because of this fact, and because dyspnea on effort ranks first as evidence of early heart failure, this symptom should be eagerly sought and determined in all suspected cardiac cases. The patient's response to his usual routine in life is still a more exact index of his myocardial reserve and efficiency than any mechanical device. This information is easily obtained from an intelligent person, but unfortunately our patients are not all intelligent and not always accurate in their statements. We are especially likely to find inaccuracies among those applying for insurance or some public benefit. It is in these cases that we must at times resort to some mechanical device and I have found Master's "Two Step Test" of value.

It is important to determine the daily activities of each cardiac patient, just when and during what kind of exertion he experiences dyspnea, if intelligent integration of facts is to be accomplished. Rational early treatment can only be instituted through proper control of these activities. Sir James Mackenzie gave dyspnea on effort a very important place. Let me, for a moment, take you to a surgical clinic to which Mackenzie has been especially invited to express an opinion on the heart prior to a surgical operation. All are expectant and hoping to see how a heart examination should be conducted. The impressive figure of Mackenzie comes through the swing-doors and he approaches the bed in pin-headed silence. He looks at the patient steadily for a few moments and then the following dialogue is heard:

"Do you live in Edinburgh?"

"Yes."

"In a tenement?"

"Yes."

"On what floor?"

"The fourth."

"When did you walk up the stairs last?"

"Yesterday."

"Were you very distressed?"

"No."

Then after feeling the pulse, glancing briefly at the patient and the chart on the wall, he was through the ward doors and gone. The surgeon "need not fear that heart" summed up his decision. Where the men had hoped to be given technic, they were handed observation, intelligent interrogation and common sense. Are we all, even in this day, fully aware of the connotation and im-

portance of this excellent demonstration of clinical cardiology? We may say that this truth has been often stated before and is old, but I wonder if it really has been stated often enough and if it is even now fully appreciated. Sir Thomas Lewis says that the very essence of cardiovascular practice is the recognition of early heart failure and although in theory this occasionally receives recognition, it still does not dominate clinical cardiology as it should. As Lewis states, is not cardiology today, and at times I think it is becoming more so, still too much concealed beneath a mass of technical and, by comparison, trivial detail? We rely too much on a normal cardiogram to rule out early heart failure and too little on an intelligent history. Lewis states there are two important questions that must be answered by the physician when a patient, who has or in whom heart disease is suspected, comes to him; first, does this patient's heart have the capacity to do the work demanded of it when the body is at rest; and second, what is the condition of the myocardial reserves? These questions, he continues, can be answered correctly in nearly all heart cases by simple interrogation and bedside signs, not by seeing if there is by chance a systolic murmur.

Cardiac dyspnea may result from any kind of heart disease where there is a limitation in myocardial reserve. It is especially common with early failure of the left ventricle as seen in hypertension, coronary sclerosis and aortic valve disease. In mitral stenosis, congenital heart disease and pulmonary emphysema, all chronic conditions affecting the right ventricle, dyspnea is usually present, but better borne and as a rule not so progressive or serious as when the left ventricle is affected. In general we can state that dyspnea on effort must be considered one of the earliest and most important symptoms of early myocardial failure. In frank form it is indisputable evidence of myocardial failure.

The second symptom of this great triad is palpitation. The Witkin foundation, in a study of 5,000 cases, found that 81 per cent of the people in the middle-aged period who complained of this symptom had associated cardiovascular disease. In the young it is infrequently associated with disease. For our purpose today we need only consider palpitation in middle life. We apparently cannot dismiss this as we can when found in the young. Too many of us are prone to underestimate it. When a middle-aged individual, who has previously experienced no such sensation, suddenly complains of palpitation, regardless of what terms he may use to describe it, a complete cardiovascular examination is indicated.

Palpitation may be due to a rapid or slow heart rate, a regular or an irregular heart rhythm. The most common cause is an increase in rate as is found during exertion, excitement, infection, fatigue, thyroid disturbances, menopause and after illness. The second most frequent cause is extrasystoles. Some may not notice these but they may be very annoying to others. Some notice the long pause, some the forcible beat after the pause and others the premature beat itself. Some may experience pain in the substernal region if the extrasystoles are frequent. When these occur in groups of three or more, or when found in patients with heart rates over 110, they assume greater significance. The third cause is abnormal tachycardias such as paroxysmal auricular tachycardia, or paroxysmal auricular fibrillation as well as permanent fibrillation, auricular flutter and rarely ventricular tachycardia and paroxysmal nodal tachycardia. A fourth cause may be a slow heart rate, but these cases are rare, as found in complete dissociation of auricles and ventricles, partial heart block with one to two or one to three block and a nodal rhythm. At times we may even see a patient with a normal or slightly increased rate complaining of palpitation.

Extracardiac factors such as abnormalities of the gastro-intestinal tract may be the cause. The patient's reaction, as well as his nervous makeup are important factors. The evaluation of palpitation may at times be difficult. It is especially important when it begins suddenly in a middleaged person following meals or on exertion. Either alone, or in conjunction with one or both of the other two symptoms, it is evidence of myocardial disease in a large per cent of middleaged individuals.

Of the three symptoms of this great triad of early myocardial failure, the one associated with the greatest danger is substernal distress on effort. It will be the first symptom in bringing people to the physician. Where dyspnea and palpitation may be considered normal or due to increase in years, substernal distress on effort will impress them as serious. The public has been better educated regarding this symptom than the other two. It has been said that the prognosis of patients with this symptom is better than the ones with dyspnea on effort. There may be something to this for the patient with substernal distress on effort soon learns how much exertion is required to bring this about and so may avoid it. The patient with dyspnea on effort will usually continue to do the things that produce it, believing it is not serious, and so constantly taxes his myocardial reserve.

Although substernal distress may not be so often confused as are some of the others, it also is often taken to be due to some gastro-intestinal

disturbance, especially when it occurs after meals. Our discussion here, of course, applies only to the distress found in early myocardiosis and not to the graver types found with advanced myocardial changes. In early stages this pain is usually mild and described as a fullness, pressure pain, heavy feeling, vice-like constriction, etc. This symptom not only impresses the patient but also the physician so that the patient will receive earlier attention.

These symptoms, although considered separately, may occur together. If to this great triad we add the occasional symptom of fatigue, which may rarely be the only symptom, we have all the symptoms of early myocardiosis.

In summarizing I would urge you to seek the more gratifying results secured through early diagnosis and treatment, rather than to wait for congestive failure or coronary thrombosis to develop when we can often do so little. By obtaining an exact and intelligent history we should be able to detect any or all the symptoms of this great triad which are so indicative of early myocardial failure. Although this may sound like an old story, I think it is still new and perhaps becoming newer—for, with all our modern appliances, we do not seek these symptoms as we should. It is possible that by a much earlier diagnosis and treatment we will delay the onset of advanced failure in many instances, and in some cases even prevent its occurrence entirely.

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1212 Bankers Trust Building.

ANALGESIA AND AMNESIA IN LABOR*

C. LEON WILSON, M.D., P. M. SANTOS, M.D.,
 and HELEN O. DICKENS, M.D., Chicago, Illinois

The alleviation of pain or its memory in childbirth has been the subject of much research and experimental work in the past years. Various and sundry methods have been tried and lauded, only later to be cast into discard. Many reports are and have been current in medical literature concerning the use of various drugs and drug combinations for the alleviation of pain in labor, but only a few of these reports included drugs in critical comparison applied to like groups in the same institution and hence, under similar environment. With this idea in mind, the Department of Obstet-

* From the Department of Obstetrics, Provident Hospital, Chicago, Illinois.

rics of Provident Hospital, decided to study critically the effect of various drugs already more or less in use, as well as to alter or devise a technic for using them.

An ideal analgesic should be absolutely safe for both mother and child, should give the greatest relief from pain; should not interfere with the contractility of the uterine muscles and hence, not interrupt the progress of labor; should be easily administered; and its cost should not be prohibitive. Most of the methods used until recently would not fit this formula. Chloroform and ether, for example, are limited to the second stage, there is no stage of amnesia, and they may stop, temporarily, uterine contractions. Chloroform is toxic in the presence of kidney and liver disease. Colonic ether is uncertain and is at times irritating to the intestinal mucosa. Morphine and scopolamine are satisfactory only in the first stage and have no place in the second and more painful stage, since they may cause fetal death due to narcosis. Nitrous oxide and oxygen anesthesia is prohibitive economically because of its price over a long period and the necessity for the presence of an anesthetist.

For purposes of our study, it was decided to use the barbituric acid derivatives as they seemed to approach nearest our ideal agent, but at the same time we were ever mindful of the fact that there are certain limitations or cautions to be considered in the use of these drugs. Their absorption is very rapid, and elimination through the kidney and liver is extremely slow, consequently there is the danger of cumulative action. Since barbiturates diminish reflex responses, they should not be used if the patient has any upper or lower respiratory infection, and for the same reason, they should not be given when the patient has recently eaten, for vomiting may occur with danger of aspiration of the vomitus. Inasmuch as barbiturates at times produce marked restlessness and a high degree of excitability, the patient must be constantly watched to prevent bodily injury. The patient must likewise be protected from all external stimuli which would cause or add to this stage of excitement. Unfortunately this type drug is not for general home use. Our objective was to produce total amnesia from the time of the administration of the drug until the patient awoke in the ward. For this study the following drugs were used: pantopon and scopolamine, sodium amytal, pernocton, nembutal, and nembutal with scopolamine. The data collected were tabulated on admission and delivery as to blood counts, pulse, respiration, blood pressure, duration of labor by stages, degree of amnesia, the amount of blood lost, the baby's birth

condition, the time required for the mother's recovery, age, dosage, amount of restlessness, the effect on the uterine contractions, reaction to pain and responses to questions between pains. The same technic was used in all cases, the only difference relating to the dosage, since we were endeavoring to determine a definite usable dose.

Pantopon and Scopolamine. Because morphine and scopolamine several years ago were considered the method of choice for producing analgesia, it was decided to begin with them, substituting pantopon for morphine, for it is claimed to be less toxic than morphine in utero. Consequently, it was given to primipara, with no major pelvic abnormality, in $\frac{1}{3}$ grain doses when the cervix was dilated two centimeters and contractions were occurring every five minutes; and to multipara when the pains were every five minutes, no special deference being paid to dilatation. Forty-five minutes later $\frac{1}{150}$ grain of scopolamine was given and repeated in sufficient doses to keep the senses dulled. No more pantopon was given. This method after a trial on one hundred cases was soon discarded, since only 38 per cent obtained complete analgesia, and 32 per cent partial analgesia, while 30 per cent obtained no relief. There was more than moderate excitement, necessitating nurse control in 20 per cent of the cases. Only a few babies breathed normally; most of them demanded some form of resuscitation. Very little change in respiration, pulse, blood loss or blood pressure occurred. The length of labor was prolonged in both primipara and multipara.

Sodium Amytal (Sodium Isoamylethylbarbiturate.) This drug was given with and without scopolamine. The beginning dose, given orally, was nine to twelve grains, and was repeated in three to four hours in from three to six grain doses as required. Forty-five minutes after the initial dose $\frac{1}{150}$ grain of scopolamine was given and repeated if the patient complained of pain. The results as to amnesia and analgesia here were generally good: 75 per cent had complete amnesia, 15 per cent almost complete amnesia, and only 10 per cent were failures. Excitement, however, was marked since 20 per cent required some type of restraint. Many of these patients became violent and unmanageable with a resultant prolonged return to consciousness. There was very little change, generally, in the blood picture, pulse, respiration or length of labor from the normal reaction. The babies born in this series were in good condition and 70 per cent breathed normally at birth. It was observed that in those cases where scopolamine was given in conjunction with the sodium amytal, the excitement was most marked.

This observation was noted in all subsequent instances where this drug was combined with any barbiturate derivative.

Pernocton. Pernocton, sodium salt of the secondary butyl-beta-bromallyl barbituric acid, in ten per cent solution was given intravenously in dosages of one cubic centimeter per thirty pounds weight at the rate of one cubic centimeter every two minutes. The average dose was two cubic centimeters to six cubic centimeters and was repeated in three hours in one-half doses if necessary. The use of this solution is not without some danger since it will cause necrosis if it is spilled into the tissue. The drug can be given only at the end of the first stage. The use of pernocton is not recommended, since it prolongs rather than shortens labor, and in twenty per cent of our cases produced convulsive seizures in the mother. Pernocton did not produce amnesia except in a few cases, heightened the excitability, had a deleterious effect on the babies, since more than 50 per cent had to be resuscitated, and increased the incidence of operative interference.

Nembutal (Pentobarbital Sodium) (Sodium ethyl (1 methylbutyl) barbiturate). Of all the barbiturates used in this work, nembutal seems the nearest approach to the ideal analgesia. It is excreted more rapidly than the other barbiturates and hence, is less toxic. It has a profound sedative, but shorter hypnotic action. Clinically, the patients become drowsy within five minutes after its ingestion, and in fifteen to thirty minutes are asleep. At times some are aroused by the pains, some are partially aroused and others are not disturbed. Some patients could be aroused easily, would talk and answer inquiries, others could be aroused with difficulty and would fall back asleep while talking. Early in our investigations, we observed that nembutal produced violent excitement, but when the dose was increased this would be overcome. No standard dosage at first could be followed, the dosage being dependent upon the patient's reaction, general attitude and general emotional makeup. The original technic was to give $4\frac{1}{2}$ grains when primiparas had a cervical dilatation of two to three centimeters, and multiparas had a cervical dilatation of three to four centimeters, with pains occurring every three to five minutes. Scopolamine was also given, subcutaneously, in $1/250$ grain to $1/100$ grain depending on the patient's weight. Twenty-five minutes later thirty grains of sodium bicarbonate were given, since nembutal produces an acidosis. After a short time, the scopolamine was discontinued, because it seemed to increase the patient's excitability. At present we give nembutal

usually in six grain doses initially and twenty-five minutes later the thirty grains of sodium bicarbonate. We repeat the nembutal $1\frac{1}{2}$ grain dose as required, preferably by mouth, although occasionally we administer it rectally. As much as twenty grains have been given one patient with no untoward results except that sleep lasted longer than usual. No unnecessary questioning or moving of the patient is permitted, as this tends to increase excitability.

This period of investigation covers 934 hospital deliveries; 300 or 32.1 per cent were given nembutal. This latter group consisted of twenty-two cesarean sections, twenty-four low forceps, two mid-forceps and 252 spontaneous deliveries. There were no evidences of neutropenia as shown by the leukocyte increase which followed the drug's administration. This leukocytosis was marked immediately after delivery and for the next two days, decreased somewhat during the following fifth to seventh day, and reached normal from the tenth to fourteenth day. The white blood count depended also upon the dosage of the nembutal given.

LEUKOCYTE CHART

Dosage	1 to 3 days' average	5 to 7 days' average	10 to 14 days' average
3 to $4\frac{1}{2}$ grains	11,250	9,320	8,260
6 to 9 grains	14,720	11,430	9,700
$10\frac{1}{2}$ to 12 grains	15,950	13,130	10,600
$13\frac{1}{2}$ to 20 grains	19,500	14,440	10,100

Blood pressure readings taken just before administration, immediately after administration, and after the delivery, showed that there was usually a drop of five to seventeen millimeters with an average drop of ten millimeters, but there were no cases of shock. In seven cases the blood pressure increased six to twenty millimeters. The amount of blood lost was measured as accurately as possible with the result that this loss was found to range from 50 to 500 cubic centimeters with an average loss of 122 cubic centimeters. There were no cases of postpartum hemorrhage.

In this series 300 babies were delivered, 293 of whom were living and breathed either spontaneously or from mild resuscitative measures, such as Lobelia or water-bath. Oxygen or artificial respiration was not necessary in this group. Of the remaining, three were stillborn, one was cyanotic and three had very shallow respiration, requiring vigorous restorative measures. The mothers of the stillborn infants were luetic. No prolongation of recovery occurred, the usual time being five to ten hours with two patients requiring twenty and forty-eight hours respectively. These patients had been given twelve and twenty grains. The length of labor varied; during the first stage from five to thirty hours, with an average of sixteen hours, and

during the second stage from fifty minutes to two hours and fifty-five minutes. The first stage was usually rapid due to sudden relaxation and dilation of the lower uterine segment. The second stage was normal with no prolongation of the third stage.

Our opinion as to the effect of the drug upon the patient is dependent upon their statements. Some remember nothing about the administration, others remember the labor but associate it with no pain and others doubt the presence of the baby. To date, we have had no maternal or fetal deaths which could be attributed to nembutal.

SUMMARY

1. Alleviation of pain is a condition to be desired in obstetrics whether delivery is normal or operative.
2. Several barbituric acid derivatives have been suggested and are in use for purposes of analgesia and amnesia.
3. Nembutal is by far the closest approach to the ideal amnesic and analgesic. No untoward result either to mother or baby followed its use.
4. Medication should be given early and all unnecessary noise should be eliminated.
5. The dosage required for satisfactory results is indefinite and its range is wide, depending on the individual's general physical condition and her emotional makeup.

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306 East Forty-third Street.

BACTERIOLOGIC DIFFERENTIATION OF THE COMMON FORMS OF CONJUNCTIVITIS WITH PARTICULAR REFERENCE TO TYPES PREVAILING IN IOWA* †

PHILLIPS THYGESON, M.D., Iowa City

Conjunctivitis is known to vary widely throughout the world. Some localities have types peculiar to themselves; for example, Samoan conjunctivitis in Samoa. In general, however, variations are in

incidence of types common to all localities. The present study of 1,039 cases, drawn from students at the University of Iowa, University employees, and patients from all parts of the state, was undertaken to determine the etiology and incidence of the types prevailing in Iowa. The technic of the bacteriologic differentiation of the common forms of conjunctivitis will be outlined in connection with their occurrence in this series.

AN ANALYSIS OF 1,039 CASES

With few exceptions all cases were studied by direct examination of smears and scrapings and by culture. Secretion smears were obtained with a platinum loop from the lower fornix or, when the secretion was scanty, from the inner angle. Epithelial scrapings were taken with a platinum

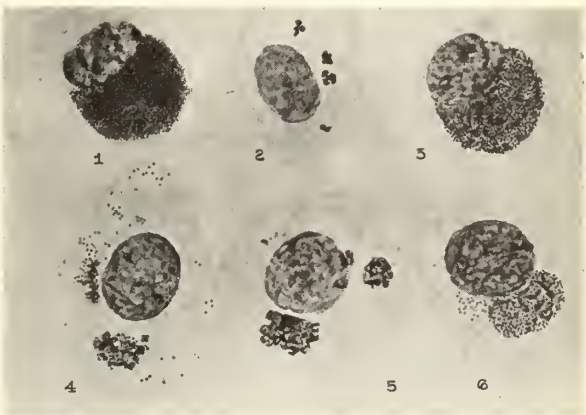


Fig. 1. Inclusion bodies in conjunctival epithelial cells from inclusion blennorrhoea, stained with Giemsa. The inclusions are cytoplasmic masses composed of minute reddish-blue granules, the elementary bodies, and relatively large blue granules, the initial bodies (Lindner). Cell 2 contains initial bodies only, cells 1 and 3 contain elementary bodies predominantly, and cells 4, 5, and 6 contain both elementary and initial bodies.

spatula, usually from both upper and lower tarsal conjunctivae; topographic scrapings were made occasionally. Gram and Giemsa stains were made of smears and scrapings. Material for culture was obtained with a platinum loop from the lower fornix. Blood agar plates were used routinely and supplemented by special media when indicated; ascitic fluid blood agar in suspected gonococcal conjunctivitis, chocolate blood agar in suspected Koch-Weeks or influenza bacillus conjunctivitis, and Loeffler's coagulated blood serum in suspected diphtheritic or Morax-Axenfeld bacillus conjunctivitis.

Common Types of Conjunctivitis (Table I)

1. Hyperacute conjunctivitis. The nine gonococcal cases presented the classical picture of gonorrheal ophthalmia. There was abundant purulent secretion, extreme papillary hypertrophy of the entire palpebral conjunctiva, chemosis of the bulbar conjunctiva, edema of the lids, and in many in-

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†From the Department of Ophthalmology, State University of Iowa, College of Medicine.

stances, corneal ulceration. Gonococci were abundant in secretion smears as well as in epithelial scrapings in which they could be seen in characteristic turf-like growth on the surface of epithelial cells. Cultures were obtained readily on ascitic fluid blood agar. A severe ophthalmia which was probably meningococcic occurred in a child, fifteen months of age, who was brought to the hospital with a hyperacute conjunctivitis of both eyes and a high fever. Smears and scrapings revealed gram-negative diplococci free in the secretion, in leukocytes, and on the surface of epithelial cells. The organism failed to grow on blood agar. Following the death of the child from meningitis several days after admission, meningococci were cultivated from the meninges and from several joint cavities. It is probable that the meningococcus was responsible for the entire disease picture; neither the mother of the child nor any members of the family were infected with gonorrhea. It is well recognized that the meningococcus can produce acute conjunctivitis (Gifford and Day¹). Not all cases of conjunctivitis occurring in meningococcic meningitis, however, are due to the meningococcus; a subacute influenza bacillus conjunctivitis in this series occurred in such a case.

2. Acute conjunctivitis. It is evident that in Iowa the condition popularly known as "pinkeye" is caused by several different bacteria. One-half of the sixty-four cases were caused by the pneumococcus, with the influenza bacillus and Staphylococcus aureus next in order of frequency. Only one case was caused by the Koch-Weeks bacillus. The patient was a summer school student from California and had contracted the infection outside the state. This finding is in agreement with those of Gifford², Jackson³, and others who have found Koch-Weeks infection rare or absent in the central part of the United States. The clinical appearance of patients with acute conjunctivitis gave very little clue as to etiology. On the basis of response to therapy, however, pneumococcic and influenza bacillus cases, healing readily with simple therapy, could be differentiated roughly from Staphylococcus aureus cases which showed a marked tendency to chronicity. Determination of the causal agent was usually made without difficulty both by smear and by culture owing to the considerable numbers of bacteria present. Secretion smears were generally more satisfactory than epithelial scrapings for the reason that with the exception of the Koch-Weeks bacillus and the gonococcus no bacteria were found multiplying on the epithelial cells of the palpebral conjunctiva. Influenza bacillus conjunctivitis was the most difficult to diagnose because of the minute morphology, poor staining

TABLE I
COMMON TYPES OF CONJUNCTIVITIS

Type	Etiologic Agent	No. of Cases	
Hyperacute	Neisseria intracellaris (meningococcus)	9	
	Neisseria gonorrhoeae (gonococcus)	—	10
		Total	
Acute	Diplococcus pneumoniae (pneumococcus)	31	
	Haemophilus influenzae	15	
	Staphylococcus aureus	7	
	Streptococcus haemolyticus	1	
	Diplococcus pneumoniae and Staphylococcus aureus	2	
	Streptococcus haemolyticus and Staphylococcus aureus	1	
	Haemophilus conjunctivitis (Koch-Weeks)	1	
	Probable endogenous Neisseria gonorrhoeae	1	
	Undetermined	4	
		Total	64
Subacute	Diplococcus pneumoniae	33	
	Haemophilus influenzae	21	
	Staphylococcus aureus	25	
	Streptococcus haemolyticus	4	
	Streptococcus viridans	1	
	Escherichia coli	1	
	Haemophilus lacunatus (Morax-Axenfeld)	1	
	Staphylococcus aureus and Diplococcus pneumoniae	3	
	Streptococcus haemolyticus and Staphylococcus aureus	2	
	Probable endogenous Neisseria gonorrhoeae	1	
	Probable endogenous Streptococcus viridans	1	
	Undetermined	7	
		Total	100
Chronic	Staphylococcus aureus	175	
	Diplococcus pneumoniae	22	
	Haemophilus lacunatus (Morax-Axenfeld)	9	
	Neisseria catarrhalis	4	
	Streptococcus haemolyticus	4	
	Streptococcus viridans	2	
	Haemophilus influenzae	2	
	Haemophilus lacunatus and Staphylococcus aureus	3	
	Streptococcus haemolyticus and Staphylococcus aureus	2	
	Diplococcus pneumoniae, Staphylococcus aureus, and Neisseria catarrhalis	1	
	Haemophilus lacunatus and Diplococcus pneumoniae	3	
	Staphylococcus aureus and Haemophilus influenzae	1	
	Diplococcus pneumoniae and Staphylococcus aureus	5	
	Streptococcus viridans and Staphylococcus aureus	1	
	Aerobacter aerogenes and Haemophilus influenzae	1	
	Unidentified gram-negative bacilli	2	
	Undetermined	162	
		Total	399
Postoperative	Staphylococcus aureus	9	
	Streptococcus haemolyticus	1	
	Staphylococcus albus	2	
		Total	12
Conjunctivitis of the newborn (3939 births)	Staphylococcus aureus	135	
	Diplococcus pneumoniae	34	
	Inclusion blennorrhoea virus	23	
	Diplococcus pneumoniae and Staphylococcus aureus	15	
	Haemophilus influenzae	7	
	Lacrimal conjunctivitis: Diplococcus pneumoniae	2	
	Staphylococcus aureus	3	
	Escherichia coli	2	
	Streptococcus viridans	2	
	Staphylococcus aureus and Haemophilus influenzae	3	
	Neisseria gonorrhoeae	1	
	Undetermined	34	
		Total	261
		Grand Total	846

qualities, and scanty growth of the organism. The condition believed to be an endogenous gonorrheal conjunctivitis occurred in a young adult having gonorrheal urethritis and arthritis. There was an acute inflammatory reaction but secretion was scanty and contained no bacteria. No organisms were seen on epithelial cells. A shallow marginal ulcer developed but healed readily.

3. Subacute conjunctivitis. The pneumococcus was also the most frequent cause of subacute conjunctivitis. In a total of one hundred cases it was found in thirty-three, *Staphylococcus aureus* in twenty-five, and the influenza bacillus in twenty-one. Here again the clinical appearance gave very little hint as to etiology. In general, however, there was more bulbar inflammation and more rapid healing in pneumococcic and influenza bacillus cases than in those due to *Staphylococcus aureus*. Conjunctivitis due to hemolytic streptococci was observed as a complication of erysipelas and scarlet fever. Bacteriologic differentiation in the subacute cases, particularly in influenza bacillus infections, was somewhat more difficult than in the acute cases because the offending bacteria were usually in smaller numbers.

4. Chronic conjunctivitis. *Staphylococcus aureus* was by far the most common cause of chronic conjunctivitis, accounting for 175 cases as against twenty-two due to the pneumococcus, and nine to the Morax-Axenfeld bacillus. Staphylococcic and Morax-Axenfeld bacillus cases could not be distinguished clinically. They were characterized in many instances by an associated blepharitis. Neither type tended to heal spontaneously. A number of the staphylococcic cases had associated marginal corneal ulceration. Cases of chronic conjunctivitis caused by other bacteria did not have associated blepharitis and for the most part healed more readily than staphylococcic and Morax-Axenfeld bacillus cases. The latter responded well to zinc sulphate therapy but showed a marked tendency to recur if treatment was not continued over a period of months. Staphylococcic infections were apparently in many instances of long duration; in several cases the conjunctivitis had persisted probably for as long as twenty years. They were often resistant to local therapy but in a number of instances healed with autogenous vaccines and toxoid. Smear diagnosis in chronic conjunctivitis was satisfactory only in *Neisseria catarhalis* and Morax-Axenfeld bacillus infections. In these two types bacteria were usually plentiful. In all other types cultural examination was more satisfactory. The colony appearance in staphylococcic conjunctivitis was most instructive; differentiation between hemolytic aureus colonies and non-hemolytic albus (probably non-pathogenic)

colonies could be made readily; in smears no differentiation was possible between pathogenic and non-pathogenic types.

5. Postoperative conjunctivitis. *Staphylococcus aureus* was responsible for eight cases of conjunctivitis occurring after cataract extraction. In two cases large numbers of *Staphylococcus albus* were found. They were pathogenic for rabbits and were probably responsible for the conjunctivitis. In a single case *Streptococcus haemolyticus* was the causal agent.

6. Conjunctivitis of the newborn. A special series of 261 cases of conjunctivitis of the newborn, occurring in 3,939 births at the University Hospital, was studied. As indicated in Table 1, *Staphylococcus aureus* was responsible for 135 or 51.7 per cent of the cases, the pneumococcus for 34 or 13 per cent, inclusion blennorrhea virus for twenty-three or 8.8 per cent, and the influenza bacillus for 7 or 2.6 per cent. Only one case of unilateral gonorrheal ophthalmia occurred, an indication of the relative efficacy of the Créde method of prophylaxis as applied in this institution (one per cent silver nitrate in each eye immediately after birth and again in four hours). In many instances etiology could be guessed from the clinical appearance. Staphylococcic and pneumococcic cases usually showed a thick purulent discharge but only mild infiltration of the conjunctiva. Inclusion blennorrhea was characterized, on the other hand, by an early severe cellular infiltration of the conjunctiva, particularly of the lower lid, the conjunctiva of the fornix being thrown into rugae-like folds. Influenza bacillus cases were characterized by scanty secretion. The single gonococcic case was severe, had extreme papillary hypertrophy of the palpebral conjunctiva and fornices, and developed corneal ulceration. Congenital stenosis of the nasolacrimal duct with resultant chronic dacryocystitis was responsible for five cases of so-called lacrimal conjunctivitis. Relief of the stenosis, either spontaneous or by probing, resulted in prompt disappearance of the conjunctivitis. Without treatment this type of conjunctivitis may sometimes persist indefinitely. Two recently observed patients, five and seventeen years of age, with dacryocystitis and a history of conjunctivitis since birth, were probably of this type. Determination of etiology by smear and culture examination was not difficult except in very mild cases. Diagnosis of inclusion blennorrhea could be anticipated when bacteria were absent in gram-stained secretion smears and confirmed by the finding of inclusion bodies in Giemsa stained epithelial scrapings. The disease occurred occasionally in a mild form but was characteristically a hyperacute conjunctivitis appearing on the fifth

day or within four days thereafter. It would appear from the cases of ophthalmia neonatorum referred to the University Hospital for treatment that the most common diagnostic errors arise from the confusion of staphylococcic conjunctivitis and inclusion blennorrhea with gonorrheal ophthalmia.

Special Types of Conjunctivitis (Table II)

1. Pseudomembranous conjunctivitis. There were two cases of pseudomembranous conjunctivitis, one caused by a hemolytic streptococcus and the other by the diphtheria bacillus. The strepto-

TABLE II
SPECIAL TYPES OF CONJUNCTIVITIS

Type	No. of Cases
Pseudomembranous conjunctivitis:	
Corynebacterium diphtheriae	1
Streptococcus haemolyticus	1
Ocular pemphigus	5
Trachoma:	
Uncomplicated	35
Secondarily infected with	
Diplococcus pneumoniae	10
Staphylococcus aureus	13
Streptococcus viridans	1
Streptococcus haemolyticus	2
Haemolyticus lacunatus	1
Haemolyticus influenzae	1
Pseudomonas aeruginosa	1
Diplococcus pneumoniae and Proteus vulgaris	1
Unidentified gram-negative rods	2
Haemolyticus lacunatus and Diplococcus pneumoniae	1
Haemolyticus lacunatus and Staphylococcus aureus	1
Total	34
Allergic conjunctivitis	
Vernal catarrh	15
Without characteristic changes of vernal catarrh	9
Sensitivity to butyn	3
Inclusion conjunctivitis	9
Acute follicular conjunctivitis, Béal type	9
Molluscum contagiosum conjunctivitis	1
Lacrimal conjunctivitis	
Secondary to chronic dacryocystitis:	
Diplococcus pneumoniae	27
Haemolyticus influenzae	7
Streptococcus haemolyticus	4
Streptococcus viridans	1
Haemolyticus influenzae and Diplococcus pneumoniae	4
Staphylococcus aureus, Streptococcus haemolyticus, and Diplococcus pneumoniae	1
Secondary to acute dacryocystitis:	
Streptococcus haemolyticus	2
Staphylococcus aureus	3
Superficial punctate keratoconjunctivitis	9
Acne rosacea keratoconjunctivitis	3
Phlyctenular keratoconjunctivitis	10
Total	193
Total in Table I	846
	1039*

*Note. A total of 1217 cases of conjunctivitis were seen in the University Hospital during the period of this survey, but owing to incomplete bacteriologic examination or defective records 178 cases are omitted from this report.

coccic case, reported in detail by Kluever,⁴ was characterized by its long duration (thirty months), by associated membranous vaginitis and acute glomerular nephritis, by the loss of one eye, and by its favorable though incomplete response to scarlet fever streptococcal antitoxin. The diphtheritic conjunctivitis healed promptly after administration of diphtheria antitoxin. Noteworthy was the absence of fever and of nasal or pharyngeal diphtheria.

2. Pemphigus. There were five cases of ocular pemphigus, one incipient, one moderately advanced, and three severe. Hemolytic streptococci were cultivated from the severe cases. Four cases

were associated with pemphigus lesions of the nasal and buccal mucous membranes; none showed pemphigus of the skin.

3. Trachoma. Of the sixty-nine cases of trachoma, thirty-five were uncomplicated and thirty-four secondarily infected. Staphylococcus aureus was the most common invader and often caused an associated blepharitis. The pneumococcus was next in order of frequency and often localized in the lacrimal sac. There were two cases of pneumococcic ulcers. Halberstaedter-Prowazek inclusion bodies were readily demonstrable in the epithelial cells in acute trachoma, sometimes in large numbers. In chronic cases they were usually present in small numbers, prolonged search often being required to find them. Scrapings from the upper fornix gave the highest percentage of positive findings.

4. Inclusion conjunctivitis. There were nine cases of inclusion conjunctivitis (already reported in detail⁵) of which six were follicular and three papillary. Diagnosis was made by the finding, in epithelial cells, of inclusion bodies (morphologically like those of trachoma) in the absence of the corneal changes characteristic of trachoma. As in inclusion blennorrhea, scrapings from the lower palpebral conjunctiva showed the greatest number of inclusions, numerous in the papillary cases, relatively few in the follicular cases.

5. Follicular conjunctivitis, Béal type. There were nine cases of acute follicular conjunctivitis believed to be identical with the condition described by Béal.^{6 and 7} They resembled closely the inclusion conjunctivitis cases but differed in that inclusion bodies were absent, the secretion was scanty with mononuclear leukocytes predominating, and the duration was short (about three weeks). The cause of this condition is unknown but the absence of bacteria suggests a virus etiology.

6. Molluscum conjunctivitis. A single case of what was probably molluscum conjunctivitis was observed. It was of long duration and bacteriologic findings were negative. Healing occurred upon removal of a molluscum contagiosum nodule from the lid margin.

7. Lacrimal conjunctivitis. Conjunctivitis secondary to chronic dacryocystitis was observed in fifty cases. The pneumococcus was the organism most commonly concerned, being present in twenty-seven cases. The influenza bacillus, next in order was present in seven cases.

8. Allergic conjunctivitis. There were fifteen cases of vernal conjunctivitis of different localizations and degrees of severity. None of them was secondarily infected and all showed conjunctival eosinophilia. Nine other cases had the severe

itching and conjunctival eosinophilia characteristic of spring catarrh, but no conjunctival changes. In addition there were three cases of sensitivity to butyn, characterized by severe itching and dermatitis of the eyelids, and a case of sensitivity to "lash-lure" which showed no conjunctival eosinophilia.

9. Superficial punctate keratitis. Nine cases with the gross clinical appearance of chronic catarrhal conjunctivitis were found on slit-lamp examination to have the corneal changes of superficial punctate keratitis. It is probable that if all chronic types of conjunctivitis having no obvious cause had been subjected to biomicroscopic examination, this condition would have been found more frequently. The disease appeared to run a definite course of from several months to a year, healing without visual damage. One case is known to have persisted four years. The cause of the disease is unknown.

10. Acne rosacea keratoconjunctivitis. There were three cases of acne rosacea keratoconjunctivitis, all with gross pannus. A small number of cases of chronic conjunctivitis, associated with mild acne rosacea, should perhaps have been included in this group.

The ten cases of phlyctenular keratoconjunctivitis presented a varied appearance. Most of them had isolated phlyctenules on the bulbar conjunctiva with little or no palpebral conjunctival reaction. In two cases the cornea was involved primarily. A considerable number of patients with signs of old, healed phlyctenular disease have not been included in this series. In view of the predominantly corneal localization of herpes simplex and herpes zoster, diseases due to these viruses are excluded from this report.

There were several noteworthy peculiarities of conjunctivitis in Iowa, as observed in this series. There were no cases of Koch-Weeks bacillus infection contracted within the state. Conjunctivitis due to the diplobacillus of Morax-Axenfeld was relatively infrequent although it is possible that a few very mild cases may have been overlooked owing to the technical difficulties involved in the isolation of the bacterium when it occurs in small numbers. No streptothrix concretions in the canaliculi were observed. According to Verhoeff,⁸ these concretions are often associated with a chronic conjunctivitis which disappears upon their removal. This was borne in mind in the examination of cases of chronic conjunctivitis in which there were no bacterial findings, but no concretions were found. There were sixty-nine cases of active trachoma from all parts of the state, a fact which would seem to indicate that trachoma constitutes a public health problem in Iowa. Five cases of ocular pemphigus were seen. This ap-

pears to be an unusually large number in proportion to the volume of patients examined. Personal communications from ophthalmologists in large eastern clinics indicate a much lower incidence of the disease elsewhere. There were no cases of conjunctival tuberculosis, Parinaud's conjunctivitis, or agricultural conjunctivitis (Gifford⁹).

GENERAL DISCUSSION

Tables III and IV outline the principal morphologic and cultural characteristics necessary for the differentiation of the common conjunctival bacteria. For detailed information reference should be made to Bergey's volume.¹⁰ Cultural differentiation in general is more delicate, but the simplicity and rapidity of smear diagnosis make it the preferable method whenever it can be used. Etiologic diagnosis in conjunctivitis is simplified by the fact that the conjunctiva has only a limited normal flora. While many different types of bacteria may occasionally occur on the normal conjunctiva, *Corynebacterium xerosis* and *Staphylococcus albus* are the only inhabitants to be found with any degree of constancy. In smears, diphtheroid bacilli are the only saprophytes to be seen in any numbers. Saprophytic staphylococci, on the other hand, are generally present in very small numbers so that when numerous staphylococci are seen in smears their pathogenicity may be assumed.

Some caution must be exercised in the interpretation of the results of culture owing to the fact that certain pathogenic bacteria, such as the pneumococcus, *Staphylococcus aureus*, streptococcus, influenza bacillus and colon bacillus, may be present on the conjunctiva without inducing symptoms. When found in large numbers in conjunctivitis, however, they may be considered pathogenic. On the other hand, bacteria such as the gonococcus, Koch-Weeks bacillus, and the diplobacillus of Morax-Axenfeld are so seldom found on the normal conjunctiva (in this region at least) that their presence may be assumed at once to indicate pathogenicity. It must be remembered also that the finding of a pathogenic bacterium in conjunctivitis does not always mean that it is the primary cause. Trachoma, for example, often becomes secondarily infected with the ordinary conjunctivitis-producing bacteria. While secretion smears in most cases of conjunctivitis are sufficient for diagnosis, the importance of epithelial scrapings should not be overlooked. They are of particular diagnostic value, first in early gonorrheal ophthalmia when bacteria are to be found on the epithelial cells at a time when the secretion is usually negative; second, in inclusion conjunctivitis and trachoma; and third, in allergic conjunctivitis, particularly vernal catarrh.

In the present series negative bacterial findings were uncommon in acute and subacute conjunctivitis but frequent in chronic conjunctivitis. In the latter type an etiologic diagnosis could not be made in 162 of the 391 cases examined. Five possible explanations for the bacteria-negative cases are first, that examination was incomplete; second, that material was collected at a time when the disease was subsiding and the causal bacterium was entirely absent or present only in small numbers; third, that the conjunctivitis was endogenous and bacteria subepithelial; fourth, that the agent was a virus; or fifth, that the agent was non-microbic. The first explanation certainly accounts for a number of cases, particularly of chronic conjunctivitis, in which the offending agent was present in small numbers and repeated examinations might have been necessary. The second explanation probably accounts for a number of cases of acute and subacute conjunctivitis in which the examination was made late in the disease; in pneumococcic and influenza bacillus conjunctivitis particularly the bacteria often disappear some time before the clinical symptoms. The third explanation probably accounts for only a few cases. The fourth accounts for the absence of bacteria in trachoma, inclusion conjunctivitis, herpes simplex, molluscum conjunctivitis, and probably in acute follicular conjunctivitis of the Béal type, and other still undefined types of virus conjunctivitis. The fifth explanation accounts for the allergic cases and for a number of cases of mild conjunctivitis of the new-

born believed to have been due to silver nitrate irritation.

The cytoplasmic inclusion bodies of trachoma and inclusion conjunctivitis (Fig. 1) are easily recognized when they occur in any number. They appear as typically paranuclear masses of bluish-red and bluish granules, the elementary and initial bodies (Lindner) respectively. Their color and sharply defined granulations readily differentiate them from extruded nuclear material and nucleoli, phagocyted nuclear debris, and other structures which have at one time or another been confused with them. The stain technic (Gram stain, Hucker modification¹¹) is as follows:

Ammonium Oxalate—Crystal Violet Solution

Solution A

Crystal violet (85% dye content)..... 4 gm.
Ethyl alcohol (95%).....20 cc.

Solution B

Ammonium oxalate 0.8 gm.
Water80.0 cc.

Mix solutions A and B in required volume (usually 25 cc.) keeping proportions 1:4.

Compound Solution of Iodine

Iodine 1 gm.
Potassium iodide..... 2 gm.
Water300 cc.

Counterstain

Safranine (sat. sol. in 95% alcohol)..... 10 cc.
Water100 cc.

TABLE III. DIFFERENTIATION BY MORPHOLOGY OF THE COMMON CONJUNCTIVAL BACTERIA

Cocci	Gram-positive	Clumps or pairs: often biscuit-shaped and intracellular; never on living epithelial cells—Staphylococcus
		Pairs or short chains; usually round elements—Streptococcus
		Lancet-shaped or elongated diplococci—Diplococcus pneumoniae (pneumococcus)
	Gram-negative	Diplococcus, typically biscuit-shaped and intracellular; found on living epithelial cells. Neisseria gonorrhoeae (gonococcus) Similar morphology; also found on living epithelial cells—Neisseria intracellularis (meningococcus) Similar morphology; not typically intracellular; never found on living epithelial cells—Neisseria catarrhalis
Rods	Gram-positive	Pleomorphic; large; usually found on living epithelial cells—Corynebacterium diphtheriae
		Similar morphology; not found on living epithelial cells—Corynebacterium xerosis
		Short, fat, clubbed—Corynebacterium pseudodiphthericum (Hoffmann)
	Gram-negative	Encapsulated—Klebsiella pneumoniae (Friedländer) Large diplobacillus—Haemophilus lacunatus (diplobacillus of Morax) Large rod—Escherichia coli or Escherichia communior Minute coccobacillus—Haemophilus influenzae Minute slender rod—Haemophilus conjunctivitis (Koch-Weeks) Minute slender rod from corneal ulceration—Pseudomonas aeruginosa (pyocyaneus)
Branched filaments		Gram-positive branching filaments in concretions from canaliculi—Streptothrix foersteri

TABLE IV. DIFFERENTIATION BY CULTURE OF THE COMMON CONJUNCTIVAL BACTERIA

Cocci	Gram-positive	Clusters ¹	Orange pigment; gelatin liquefied; often produces beta hemolysis; pathogenic— <i>Staphylococcus aureus</i>	
			White or colorless growth; gelatin liquefied; sometimes produces beta hemolysis; ferments sucrose and mannitol, not raffinose; often pathogenic— <i>Staphylococcus albus</i>	
			White or colorless growth; gelatin slowly liquefied; non-hemolytic; ferments sucrose, not mannitol or raffinose; low, if any, pathogenicity— <i>Staphylococcus epidermidis</i>	
	Chains	Flat transparent minute colony, usually umbilicated; alpha (green) hemolysis; bile soluble; ferments inulin— <i>Diplococcus pneumoniae</i> ²	Minute elevated colony with opaque center; insoluble in bile; do not ferment inulin	Beta hemolysis— <i>Streptococcus haemolyticus</i>
				Alpha hemolysis— <i>Streptococcus viridans</i>
				No hemolysis— <i>Streptococcus non-haemolyticus</i>
	Packets— <i>Sarcina</i> , generally granular, dome-shaped red or yellow colonies; non-pathogenic			
	Gram-negative	Grows only on enriched media such as ascitic fluid agar, at 37 degrees centigrade; grayish opalescent raised colonies; ferments dextrose, not maltose, saccharose, or levulose— <i>Neisseria gonorrhoeae</i> ⁸		
		Requires media containing blood or serum, at 37 degrees centigrade; ferments dextrose, maltose, not saccharose or levulose— <i>Neisseria intracellularis</i> ³ (meningococcus)		
		Grow well at 22 degrees centigrade on ordinary media; non-chromogenic	Moist colonies on agar; dextrose, maltose, saccharose, and levulose not fermented— <i>Neisseria catarrhalis</i>	
Dry, crumbly colonies on agar; ferments dextrose, maltose, saccharose, and levulose— <i>Neisseria sicca</i>				
Rods	Gram-positive	Aerobic; spores formed	Motile; central spores; grayish amoeboid colony with crenate margin; usually beta hemolytic; non-pathogenic for animals— <i>Bacillus subtilis</i>	
			Acid-fast— <i>Mycobacterium tuberculosis</i>	
		Aerobic; spores not formed	Not acid-fast ⁴	Pleomorphic rods with metachromatic granules, swollen ends; pathogenic for animals; protection test with diphtheria antitoxin diagnostic— <i>Corynebacterium diphtheriae</i>
	Similar morphology; minute, slow-growing, granular, opaque colonies on blood agar; non-pathogenic— <i>Corynebacterium xerosis</i>			
	Short, thick rods, often barred but not granular; large, grayish-white granular colonies on blood agar; ordinary sugars not fermented— <i>Corynebacterium pseudodiphthericum</i> (Hoffmann)			
	Gram-negative	Grow on plain media	Gelatin liquefied	Motile; spreading characteristic amoeboid growth on moist media; acid and gas in maltose; no action on mannitol or lactose— <i>Proteus vulgaris</i>
				Green, blue, or yellowish-green pigment diffusing through medium
			Gelatin not liquefied; acid and gas in dextrose and lactose	Minute motile rod with polar flagella; large low-convex colony with beta hemolysis; chloroform soluble pigment, pyocyanin, produced— <i>Pseudomonas aeruginosa</i> (<i>Bacillus pyocyaneus</i>)
	Acid and gas with dulcitol, not saccharose— <i>Escherichia coli</i>			
	Acid and gas with dulcitol and saccharose— <i>Escherichia communior</i>			
Encapsulated; acid and gas in saccharose; no action on mannitol or dulcitol— <i>Klebsiella pneumoniae</i>				
Enriched media required	Scanty growth on blood agar; abundant growth on chocolate blood agar; minute coccobacillus— <i>Haemophilus conjunctivitis</i> (Koch-Weeks) or <i>Haemophilus influenzae</i>			
	Large diplobacillus; liquefies Loeffler's blood serum medium— <i>Haemophilus lacunatus</i> (Morax-Axenfeld)			

1. Most pathogenic types of staphylococci are hemolytic. The majority of hemolytic aureus strains are pathogenic but certain hemolytic albus strains are non-pathogenic.

2. Some conjunctival pneumococci of low virulence are not bile soluble, do not ferment inulin, and cannot be typed.

3. Polyvalent antigonococcal and antimeningococcal sera useful for diagnosis (Agglutination test).

4. Other non-pathogenic corynebacteria not uncommon on the conjunctiva.

Fix in flame. Stain one minute with crystal violet solution. Wash. Apply iodine solution one minute. Decolorize in 95 per cent alcohol fifteen to thirty seconds. Counterstain with safranin five seconds. Wash, blot, and examine.

The Giemsa stain is as follows:

Dry films in air. Fix in C.P. (acetone free) methyl alcohol five minutes or longer. Stain in dilute Giemsa (one drop to two cubic centimeters of neutral distilled water) one hour. Decolorize in two changes of 95 per cent alcohol for five seconds each. Dry in air and examine.

To test the Gram stain, prepare a smear of tartar from the teeth. Abundant gram-negative and positive bacteria will be present so that the differentiating power of the stain may be seen at a glance.

The Giemsa stain requires neutral distilled water. If alkaline, the preparation is blue and muddy; if acid, red. A slight degree of acidity can be tolerated. Distilled water standing in containers made of a poor grade of glass rapidly becomes alkaline.

Etiologic diagnosis of conjunctivitis is important in the following respects; first, as an indication for isolation in cases due to such organisms as the meningococcus, the gonococcus, and the diphtheria bacillus; second, as a guide to therapy in specific infections which are not self-limited and are resistant to treatment, such as chronic conjunctivitis due to Morax-Axenfeld bacillus or Staphylococcus aureus, gonorrheal ophthalmia, and diphtheritic conjunctivitis; and third, because in prognosis in most instances it is possible to predict the probable duration and end result of the conjunctivitis in question when its cause is known. In the Iowa series bacteriologic study is believed to have been distinctly helpful in the following instances:

1. In conjunctivitis of the newborn; first, in the single case of gonorrheal ophthalmia in the hospital series diagnosis was made and the unaffected eye shielded before typical clinical signs of the disease had developed; second, the diagnosis of inclusion blennorrhea made possible the assurance of good prognosis to infants' mothers and families who were alarmed over the severe symptoms and apparent gonorrheal nature of the conjunctivitis.

2. In gonorrheal ophthalmia of the adult determination of etiology led to isolation and appropriate therapy.

3. In one of the two cases of pseudomembranous conjunctivitis the determination of diphtheritic etiology led to prompt use of diphtheria antitoxin and rapid cure of the condition. In the other, determination of a hemolytic streptococcus as the

etiologic agent led to the use of scarlet fever streptococcal antitoxin with favorable results.

4. Chronic conjunctivitis due to the diplobacillus of Morax-Axenfeld was found to be resistant to ordinary therapy but healed readily when lid margins and conjunctiva were treated with zinc sulphate preparations. Staphylococcus aureus cases, resistant to local therapy, healed in most instances when vaccines and staphylococcus toxoid were used.

5. The presence of a conjunctival eosinophilia was an important aid in the diagnosis of allergic conjunctivitis.

6. In non-bacterial conjunctivitis the finding of the Halberstaedter-Prowazek type of inclusion body was important in limiting the diagnosis to trachoma or inclusion conjunctivitis.

7. In actively-secreting trachoma, bacteriologic examination was useful in determining whether the acute symptoms were due to superimposed bacterial infection or to increased activity of the trachoma itself.

SUMMARY AND CONCLUSIONS

A bacteriologic survey of conjunctivitis in Iowa is reported. The most common cause of hyperacute conjunctivitis was the gonococcus, of acute and subacute conjunctivitis the pneumococcus, and of chronic conjunctivitis Staphylococcus aureus. Noteworthy was the absence of Koch-Weeks bacillus conjunctivitis. The most common cause of conjunctivitis of the newborn was Staphylococcus aureus which was responsible for 51.7 per cent of 261 cases. Next in frequency were the pneumococcus in 13.0 per cent and the inclusion blennorrhea virus in 8.8 per cent. There were twenty-four cases classed as allergic conjunctivitis, of which fifteen had the characteristic palpebral and limbal changes of vernal catarrh. All showed conjunctival eosinophilia. There were three cases of butyn and one of "lash-lure" sensitivity which did not show conjunctival eosinophilia. The most common bacterium found in conjunctivitis secondary to dacryocystitis and stenosis was the pneumococcus with the influenza bacillus next in order of frequency.

Of the special forms of conjunctivitis, trachoma occurred with the greatest frequency. Of the total of sixty-nine cases thirty-four were secondarily infected with bacteria, most commonly the pneumococcus and Staphylococcus aureus. Trachoma is believed to constitute a public health problem in Iowa. There were nine cases of inclusion conjunctivitis in adults, six of the follicular and three of the papillary type. There were nine cases of acute follicular conjunctivitis, Béal's type.

Of the rarer forms of conjunctivitis two were

of the pseudomembranous type, caused in one instance by the diphtheria bacillus and in the other by a hemolytic streptococcus. Five cases of ocular pemphigus were seen and one case of chronic conjunctivitis believed to be secondary to a molluscum contagiosum nodule of the lid margin. There were no cases of conjunctival tuberculosis, Parinaud's conjunctivitis, and agricultural conjunctivitis.

Technical considerations useful in the bacteriologic differentiation of conjunctivitis are summarized.

Discussion

Dr. E. P. Weih, Clinton: The essayist has described to us, in a most excellent paper, the kinds of micro-organisms that are present in the conjunctival secretion of the types of conjunctivitis that are most prevalent in the state of Iowa. He has given to us, in detail, the methods that are practical for us as ophthalmologists. I have been making smears and cultures on these cases for the past twenty-four years, and the technic is very simple. If we do not have time to stain our slides, we should teach our office assistants to do it. I prefer to examine these specimens myself. The information derived from this means of examination is, on certain occasions, surprising. The identification of micro-organisms present gives us a clue as to how to treat our cases, and what to expect in the way of prognosis and length of treatment required.

It is generally agreed that the normal conjunctival sac does contain bacteria in a large number of cases without showing signs of inflammatory action. The bacterial types found are pathogenic and vary quantitatively and qualitatively, according to the conditions of the various studies. Therefore, some standard for making these examinations should be available. The one used by Dr. Thygeson is very good and has stood the test of time. We may take cultures by cotton swabs, by platinum loop, or by scrapings. Each method has its advantages, and disadvantages. Cotton swabs may be either dry or moist, but I prefer the moist swabs. When swabs are used the whole surface of the conjunctiva can be covered without damaging or irritating it. The swabs will contain the necrotic surface cells upon which bacteria may be resident. Cotton swabs may be moistened in one per cent glucose infusion broth. Moist swabs will give a greater percentage of positive cultures than dry ones.

We know that all these pathogenic bacteria are found in the conjunctival secretion in normal conditions, and when we find them in a conjunctivitis, we say and believe that they are the causative agent, even though the patient was the host for these micro-organisms long before the onset of conjunctivitis. Therefore, how can we say that they are the causative factor? Granting that they are the infective agent, what changes have taken place to make them suddenly become virulent, and why should the conjunctiva become inflamed? If the essayist has any ideas

on this question, other than the usual reasons, I would like to have him explain them.

The number and relative proportions of organisms obtained will vary considerably from time to time. There is usually no seasonable variation in the incidence of staphylococci and diphtheroids in the normal conjunctiva. A great increase over the number usually found in normal conditions will be noted in conjunctivitis. Hemolytic streptococci are usually found more frequently in the winter, while there is an increase in the pneumococci in the summer. *Bacillus pyocyaneus* is rarely found in the conjunctiva, but when it is, its virulence is severe. The importance of finding streptococci is generally not recognized; it usually does not produce a conjunctivitis. Streptococci are not epithelial parasites and are not found in the epithelial cells in a preparation of conjunctival scrapings. Streptococci usually get into the conjunctival sac secondarily from other infections, for example, tear sac infections and corneal ulcers. It is important to find staphylococci in conjunctivitis because then we have the possibility of using a bacterial lysate. In a purulent conjunctivitis, the smears from which show gram-negative bacteria, diplococci should be treated as a gonorrheal ophthalmia. In a mild case of conjunctivitis, the smears from which show gram-negative bacteria, diplococci should be treated as an ordinary conjunctivitis, but other diagnostic procedures should be instituted at once.

I agree in every detail with the essayist and the statements made by him are correct and cannot be refuted. His paper will be of great value, because it will stimulate the investigation of the micro-organisms in the conjunctiva by the oculists of Iowa, in their offices.

Dr. Thygeson, closing: Dr. Weih has raised some very interesting questions concerning the normal conjunctiva and its flora. It is fortunate that the conjunctiva has an adequate cleansing mechanism. The flushing action of the tears and their lysozym content inhibit the normal flora so that in a considerable proportion of cases no bacteria are to be found. It may be said that diphtheroid bacilli and white staphylococci are the more or less constant inhabitants. A fairly good control is derived from the results of routine bacteriologic examination prior to cataract extraction. In the majority of cases no pathogenic bacteria are found, but in a minority the various conjunctival pathogens are present, usually in small numbers. We have not yet found pathogenic bacteria on the normal conjunctiva in sufficient numbers to be demonstrable on direct examination. Thus, in conjunctivitis, when one of the known conjunctivitis producers is found in large numbers in smears we may be sure that it is either the cause of the inflammation or participates in producing it.

In the case of bacteria such as the Koch-Weeks bacillus the gonococcus, and the meningococcus, which actually invade the epithelium and can be demonstrated on epithelial cells in conjunctival scrapings, little doubt can be raised as to their causal relationship to the conjunctivitis in which they are found.

Likewise the demonstration in trachoma and in inclusion conjunctivitis of virus colonies (inclusion bodies) immediately suggests etiologic significance. However, in the case of bacteria such as the Morax-Axenfeld bacillus and Staphylococcus aureus, which proliferate in the secretion and on dead epithelium only, epithelial scrapings do not afford information relative to etiology. On the basis of recorded inoculation experiments, we are certain that the Morax-Axenfeld bacillus causes conjunctivitis. Inoculations with Staphylococcus aureus have failed usually, but the clinical picture of staphylococcus conjunctivitis has been reproduced in man and animals by instillations of exotoxin, and this, together with the fact that staphylococci disappear when the conjunctivitis heals, recur if the conjunctivitis recurs, and in resistant cases disappear after the use of staphylococcal vaccine or toxoid, provide rather strong evidence for the existence of a staphylococcus conjunctivitis.

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Case Report

CONGENITAL IMPERFORATE ANUS

FRANK S. HOUGH, M.D., Sibley*

For the want of a better title I am calling this case one of imperforate anus, which no doubt it was at birth, because it was strictly of the congenital type.

A boy, six years of age, well nourished, but of a freakish nature and uncertain parentage, as far as the father is concerned, was brought to me from a neighboring town for operation for rupture. He had a very small protrusion at the umbilicus, but there was no urgent need for operation for hernia. After examination, I decided that he had not had a natural movement of the bowels since birth. There was a dense diaphragm or membrane at the anal outlet harboring a perforation at its center. The perforation was surrounded by a ringlike rigid

circumference. I could insert only the very tip of my index finger because this perforation would not dilate. With the patient under ether I was able to insert a very small bladed rectal speculum. When the child was born the meconium was not expelled, and the aunt inserted a syringe nozzle with some force, after which a quantity of meconium was expelled. Daily thereafter an enema was given this child and he would, after considerable straining, have a bowel movement. When older, he would spend the best part of an hour after his enema, grunting and groaning in the toilet before he would obtain any movement.

At the time of this child's birth the mother was hurriedly attended by a very capable physician who had taken care of her once before for the birth of a girl. It seems there was no feeling of amity between the family, especially the father of this mother, and the physician. However, I am satisfied that the family was at fault. This feeling accounts for the fact that the physician accepted his fee and did not officiate further during the puerperium. No physician examined the child during the six years of his life, until he was brought to me for the present complaint. I found that the child needed a circumcision and a tonsillectomy, but found the source of his trouble at the anus upon which I operated and incidentally performed the circumcision.

My object was to restore fully the anal outlet and leave no raw margin which might later cicatrize and produce a secondary stricture. None of the membrane was cut away. The following diagram will explain my procedure.

The child was operated upon September 16, 1936. If I had removed the diaphragm by cutting it loose at its periphery, no doubt there would have been a ringlike cicatrix to form a stricture. The



five silk sutures represent permanent anchorage. The intermediate flaps stretch and flatten by future fecal evacuations. The musculature was not involved. The sphincters were not operated upon. In this case the outside anal aperture was spanned by a dense membrane with a small central aperture. The wonder is that the child was able to evacuate through such a small rigid (circumferentially) ringlike aperture, for six years.

Since the operation he has had voluntary natural bowel movements, either three times a day or twice daily, after breakfast and supper. No cathartics and no enemas have been necessary.

* Author deceased December 3, 1936.

About ten days after this operation at the family's insistence, I operated on a small umbilical hernia for him. It was not necessary at this time, since it was small and had never caused any trouble, but the family attached more importance to it than to the anal operation.

It may be that this imperforate anus existed at birth but there is a distinct history of the nozzle of the syringe being forced through in an attempt to give an enema.

CLINICAL NOTES FROM THE COLLEGE OF MEDICINE

SKIN CHANGES IN LEUKEMIA

RUBEN NOMLAND, M.D., Iowa City

Department of Dermatology and Syphilology

Skin changes and eruptions are fairly common in all of the leukemic disorders. They may occur in almost any sort of chronic leukemia or they may precede the development of a leukemic blood picture by months or even years. Leukemic disorders of the skin are rather difficult to classify and there is fusion of the various types found, but the most common types are:

1. Generalized itching (prurigo lymphadenique) occurs most commonly in Hodgkin's disease and chronic lymphatic leukemia in its leukemic or aleukemic phases. The skin lesions are nonspecific, both from the clinical and the pathologic point of view.
2. Generalized exfoliating dermatitis (erythroderma) occurs most commonly in chronic lymphatic leukemia and is found in the aleukemic as well as in the leukemic phases. A section of the skin may show infiltration of cells in the upper part of the dermis of the same type as those found in the circulating blood; or if it is an aleukemic leukemia, similar to those found in the lymph glands. In many cases the picture is nonspecific, that is, the inflammatory infiltration in the cutis is not different from that of a simple exfoliating dermatitis.
3. In localized leukemic infiltration of the skin the cells making up the lesion are of the same type as those present in the blood. It is the least common form of cutaneous involvement and occurs most often in chronic lymphatic leukemia. It may be present in the aleukemic as well as in the leukemic phases.
4. More or less generalized eruptions usually consisting of hemorrhagic lesions accompanied by marked stomatitis are a feature of many acute

leukemias, particularly those of a myelogenous type.

To give the reader a better picture of the varied findings in leukemia of the skin, examples of the above types will be cited.

GENERALIZED ITCHING

A negro male, thirty-eight years of age, noted a painless, generalized enlargement of his lymph glands beginning in January, 1936, with greater enlargement in the cervical and axillary regions. He lost thirty pounds in weight. Coincident with the development of the enlargement of the lymph glands he developed a severe generalized itching that was almost intolerable. There was generalized lymphadenopathy with glands in the axilla of a diameter of two to five centimeters. The nodes were firm, non-tender, discrete and freely movable. The skin showed only the changes that occurred as a result of the prolonged scratching, with development of generalized, slight, papular lichenification, many excoriations and a few nonspecific vesiculopustules on the legs. The blood count was as follows: 4.78 million red blood cells, 15.5 grams hemoglobin, 13,200 leukocytes; the differential count was 43 per cent neutrophils, ten per cent eosinophils, 45 per cent lymphocytes, two per cent monocytes, no abnormal cells. X-ray of the chest showed slight widening of the mediastinum. Biopsy of a lymph gland showed destruction of the normal architecture with uniform overgrowth of a lymphoid cell which was somewhat vesicular and had a small nucleus. There were no eosinophils or giant cells. It was considered to be a rather mature type of cell. Biopsy of the skin was nonspecific, showing a mild simple inflammation. The lymph glands regressed considerably under x-ray therapy but the cutaneous findings and symptoms remained unchanged. The diagnosis was malignant lymphoma (lymphocytic type) with generalized pruritus and nonspecific generalized traumatic dermatitis.

A girl, twenty-nine years of age, noted enlargement of the glands of the right side of the neck seven months previous to her examination at the University Hospital. At about the same time she noted generalized intractable itching of the skin. Physical examination revealed a group of enlarged glands that seemed attached to the surrounding structure present in the right side of the neck and in the right axilla. There was generalized increased pigmentation of the skin with changes caused by the scratching, consisting of slight thickening, many excoriations and some dryness of the skin. The blood count was as follows: 21,200 leukocytes, 87 per cent polymorphonuclears, 14 per cent lymphocytes, one basket cell and one

basophil. Biopsy of a gland showed abundant eosinophils, large monocytes and a few giant cells of the Dorothy Reed type. Biopsy of the skin showed slight, nonspecific, inflammatory reaction. The patient has been under observation for more than a year with a progressive decline in her general condition, recently with daily elevation of temperature up to 102 degrees. The cutaneous symptoms and findings remain essentially the same. The enlarged lymph glands have responded to x-ray treatment but have showed a tendency to recur. The diagnosis was malignant lymphoma (Hodgkin's disease), generalized pruritus of the nonspecific type.

These two cases are illustrative of the chronic generalized itching that is frequently found in Hodgkin's disease and in chronic lymphatic leukemia. The skin symptoms often begin simultaneously with the leukemic findings but they may precede or follow them. While the leukemic infiltration can be caused to disappear with x-ray, the cutaneous symptoms generally persist and they are a most intractable type of itching to control. The changes in the skin are only those caused by the trauma of continual scratching.

GENERALIZED EXFOLIATING DERMATITIS

Generalized exfoliating dermatitis is the next most common cutaneous manifestation of chronic leukemic disorders. It occurs most often in chronic lymphatic leukemia, either in the aleukemic or leukemic phase, but it may occur in Hodgkin's disease and occasionally in the more rare chronic leukemias. The following cases are typical.

A white man, sixty-four years of age, stated that a generalized itching developed nine months previous to the first observation. This was followed by generalized redness of the skin with development of a rather dark brown pigmentation. There was moderate enlargement of all palpable groups of lymph glands but the liver and spleen were not palpable. There was general redness of the entire cutaneous surface with slight thickening, scaling, mahogany brown pigmentation and many excoriations. There were 18,000 leukocytes with 25 per cent polymorphonuclear leukocytes, 73 per cent lymphocytes and two per cent monocytes. There were no young or abnormal forms and the lymphocytes were of a relatively mature type. Biopsy of the skin revealed mild inflammatory infiltration of the upper part of the cutis that was interpreted as being nonspecific in type. The diagnosis was erythroderma, chronic lymphatic leukemia.

A woman, forty-three years of age, noted a palm-sized area of redness in the lumbar region two years before she was examined. This gradu-

ally spread over the trunk, extremities and head to involve the entire body. Intense itching was present from the beginning. Enlargement of the inguinal and cervical lymph glands was noted eighteen months after the onset of her skin symptoms. The entire body, including the face and extremities, was involved in a dry, finely scaling, erythematous eruption. The skin was moderately thickened but there was no oozing or crusting. In the scalp there was considerable loss of hair. All of the palpable lymph glands were enlarged to about the size of almonds except those in the axillae, several of which were four centimeters in diameter. The spleen and liver were not palpable and a general physical examination revealed no other findings. There were 3.94 million erythrocytes, 12,920 leukocytes with 66 per cent neutrophils, seven per cent large monocytes, 27 per cent lymphocytes. No eosinophils or abnormal forms were seen. Two biopsies of the skin were studied. One revealed a mild, simple, inflammatory reaction, while the other showed a typical leukemic infiltration with large collections of lymphocytes present about the vessels of the subpapillary layer. There was considerable improvement in the dermatitis following superficial x-ray therapy. The lymph glands also regressed under x-ray treatment. The diagnosis was chronic lymphatic leukemia in an aleukemic phase, generalized exfoliating dermatitis with a specific leukemic pathology.

Numerous cases illustrating the interrelationship between generalized exfoliating dermatitis and chronic leukemia in most of its phases are reported in the literature. The skin pathology may show typical leukemic infiltration unassociated with any demonstrable leukemia, and the blood findings may occur only after months or even years. On the contrary the blood findings may be those of a typical active leukemia, while the pathology of the skin lesions is nonspecific. The first case illustrates generalized erythroderma with a nonspecific pathologic picture occurring in a chronic lymphatic leukemia with an active leukemic phase present in the blood. The second case illustrates a chronic exfoliating dermatitis with a specific leukemic infiltration on biopsy of the skin, enlargement of the lymph glands, but with an aleukemic phase present in the blood.

LEUKEMIC INFILTRATION OF THE SKIN

Specific infiltration of the skin by cells similar to those that make up the leukemia with the formation of papules, papulonodules or larger infiltrated lesions in the skin is the least common manifestation of leukemia of the skin. It occurs very rarely in Hodgkin's disease, most commonly in lymphocytic or monocytic leukemia and very rarely

in myelogenous leukemia. There are usually no, or slight, cutaneous symptoms present. The cutaneous lesions vary from a few, red, poorly defined nodules to a generalized eruption consisting of nodules or papulonodules. The following case is illustrative of this type of leukemia.

A man, forty-eight years of age, stated that several years ago he had noticed enlarged lymph nodes in the neck; however, after a time the enlargement disappeared. Seven months before he came under observation he noted a walnut-sized lump in the right axilla which steadily increased in size until it impaired the circulation in the right arm. A mass about the size of a big fist was found in the right axilla and a pecan-sized node in the right epitrochlear region. A few small glands were found in the other regions but the spleen was not palpable and the general physical examination was normal. X-ray examination revealed questionable enlargement of the mediastinum. Biopsy of a lymph node showed the sinusoids to be obliterated but there were large, poorly demarcated bodies resembling enormous germinal centers. These were made up centrally of small young lymphoid cells but at the periphery more mature lymphocytes were found. There were no Dorothy Reed cells. The pathologic diagnosis was malignant lymphoma (lymphocytic type). X-ray treatment to the axilla caused marked regression of the lymph nodes with alleviation of the circulatory symptoms in the arm. There were 8,600 lymphocytes with 68 per cent polymorphonuclears, four per cent eosinophils, 26 per cent lymphocytes and two per cent monocytes. There were no cutaneous findings at this time. For the next several months the patient returned for x-ray treatment of the lymph glands which showed a tendency to enlarge shortly after each course of x-ray treatment. Eight months after his original admission he developed a cutaneous eruption which was without symptoms but there was no recurrence of enlargement of the lymph glands. The eruption was present over the scapular regions, on the chest and just within the hair line of the scalp. It consisted of a rather sparse eruption of indefinite, subcutaneous, red infiltrations from one to one and one-half centimeters in diameter. Biopsy of one of the nodules revealed dense infiltration of fairly mature lymphocytes extending from just beneath the epidermis to the fat layer of the cutis. The cells making up this infiltration were similar to the more mature cells found on biopsy of a lymph gland. The blood count at this time was essentially normal.

This case is an excellent illustration of asymptomatic, localized, nodular, leukemic infiltrations of the skin occurring in an aleukemic lymphadenosis.

In contrast to the two previous types of cutaneous involvement, this type presents few symptoms, is generally circumscribed in its extent, and pathologically the lesions are composed of infiltrations of cells of the same sort as form the leukemic picture. It may occur in most forms of chronic leukemia, both in the leukemic and aleukemic phases.

GENERALIZED ERUPTIONS

Nonspecific eruptions occurring with acute leukemias, especially of the myelogenous variety, are common. The most common of all are a severe stomatitis and hemorrhagic lesion. The following case history is typical of the findings in acute myelogenous leukemia.

A girl, twenty-three years of age, stated that she began to feel below par a few months ago. She found that she tired easily and had lost ten pounds. Two weeks before admission she rather suddenly developed soreness in her gums with bleeding, followed by sore throat. With the development of the sore throat, tender glands appeared in the neck. Several days thereafter she developed indefinite scattered lesions on her face. In addition she had diarrhea with bloody stools and considerable abdominal pain. At no time were there any symptoms from her cutaneous disorder. Examination revealed redness, sponginess and superficial ulceration of the gums with bleeding upon the slightest trauma. The throat was diffusely reddened and there was a foul odor from her mouth. Because of the pain, complete examination was impossible. In the neck the lymph glands were diffusely enlarged, soft and painful to pressure. Her spleen was not palpable and there was no enlargement of other lymph glands. There were 2.9 million red blood cells, 58,600 leukocytes with 45 per cent neutrophils, 11.5 per cent lymphocytes, one per cent monocytes and 83 per cent blast cells that were extremely immature. The bleeding time was prolonged and purpuric lesions developed on the blood pressure cuff test. On her skin there were scattered lesions, one to three millimeters in diameter, that were essentially small hemorrhages in the skin with a secondary pustular center superimposed upon them. The diagnosis was acute myelogenous leukemia with severe stomatitis and nonspecific purpuric lesions.

The cutaneous therapy in leukemia of the skin is unsatisfactory. In the generalized pruritus and exfoliating dermatitis no bathing with soap is permitted. The colloid bath prepared as follows is allowed: a gruel is prepared by placing a cupful of oatmeal in a sack and boiling for fifteen minutes in two or three quarts of water. The gruel in the sack and its water is added to a lukewarm

bath to which has been previously added one cupful of soda. The bath may be taken daily. The skin is dried by patting and a simple ointment such as five per cent boric acid in cold cream is applied. Localized leukemic infiltrations respond to small doses, 75 to 160 roentgens of unfiltered x-ray. X-ray treatment to enlarged lymph nodes frequently benefits the nonspecific eruptions which occur in Hodgkin's disease and chronic lymphatic leukemia.

SUMMARY

Four types of cutaneous eruptions are recognized to be manifestations of leukemia of the skin. Generalized pruritus, generalized exfoliating dermatitis, and nodular leukemic infiltrations of the skin occur in Hodgkin's disease, chronic lymphatic leukemia in its aleukemic or leukemic phase, and occasionally in other varieties of chronic leukemia. Stomatitis with purpuric eruptions is a common finding in acute leukemia, particularly the myelogenous variety.

THE FINLEY HOSPITAL CLINICO-PATHOLOGIC CONFERENCES

SYPHILIS, TUBERCULOSIS AND MALIGNANT TUMORS OF THE TESTIS

Pathology and Differential Diagnosis

F. P. McNAMARA, M.D., Dubuque

The correct treatment of lesions of the testis demands an accurate diagnosis of the pathologic condition present. Only by intelligent and complete clinical studies, based upon a knowledge of the pathologic lesions which may affect the organ, can exact diagnoses be reached. In a series of fifteen surgical specimens of syphilis, tuberculosis, or malignant tumors of the testis received at the laboratory, only three were correctly diagnosed before operation. In each instance the specimen presented a typical "textbook picture" of the respective pathologic lesion. A review of the clinical records of these cases, which indicates that the preoperative studies were inadequate, undoubtedly explains the low percentage of diagnostic accuracy. Therefore, instead of the usual case reports, this conference will be largely concerned with a consideration of the pathology and differential diagnosis of these three important lesions. As a prelude, however, some of the obvious deficiencies of the clinical records will be mentioned.

With one exception, the patients were between twenty and fifty years of age; in other words they

were in that period when syphilis, tuberculosis, or malignant tumors of the testis are likely to occur. The exception was a man eighty-seven years of age who had bilateral tuberculous epididymo-orchitis. The principal complaints were swelling, tenderness, pain, or sensations of weight or dragging in the affected testis. In one case of chorio-epithelioma the chief complaint was the coughing up of blood obviously due to pulmonary metastases. The duration of symptoms varied between two weeks and two months. With the exception of the three cases correctly diagnosed, the records of the physical examinations were very brief and indicated that they were largely confined to the presenting lesion. The "enlargement of the testis" was confirmed in all instances, but the condition of the epididymis or its relation to the testis was rarely mentioned. The failure to consider syphilis as a possible diagnosis was evident as it was not mentioned in the data, and preoperative serologic tests were not done in a single instance. The same was true in regard to tuberculosis. Except in one of the correctly diagnosed cases no efforts were made to determine whether the patient had pulmonary or genito-urinary tuberculosis. The Mantoux test and x-ray examination were not utilized as diagnostic aids. The malignant tumors were diagnosed as "tumor of the testis," but one may doubt the significance of these diagnoses as both syphilis and tuberculosis were also designated as "tumor." Furthermore, in no instance of actual tumor did the clinical data indicate a thorough search for metastases. It is true that in the case of chorio-epithelioma mentioned above the pulmonary lesions were recognized as metastases, but the primary growth of the testis was only discovered at the postmortem table. Judging by the records and by the failure to differentiate between these three lesions, the conclusion is unescapable that many are unfamiliar with their pathology or differential diagnosis.

PATHOLOGY

Syphilis affects the epididymis and testis as a part of the systemic infection in the secondary stage of the disease, but is of little clinical significance. Indeed it is rarely diagnosed except in routine complete examinations. In the tertiary stage the disease involves the testis in two chief forms which may be combined; first, fibrous orchitis, and second, gummatous orchitis. In each type the testis is primarily involved, in contrast to tuberculosis. The epididymis is only rarely affected by extension of the testicular process. In fibrous orchitis the glandular elements are more or less completely replaced by tough, fibrous tissue; the organ is usually small, insensitive and hard; the

epididymis is intact. Very rarely the testis is enlarged and very hard ("billiard-ball" testis), and then may be mistaken for a true tumor. Gummatus orchitis is less common than the fibrous form, but may develop in association with it. It



Fig. 1. Gummata of the testis. The epididymis was not involved.

begins as one or more gummatus nodules (Fig. 1), which may gradually increase in size and may become adherent to the tunica and the scrotum. In contrast to tuberculosis the gummata rarely soften, but this may occur and fistulous communications to the scrotal tissues and indolent ulceration of the skin is likely to result. Gummata may be absorbed completely, but usually are replaced by dense scars which sometimes undergo calcification. The vas deferens seminal vesicles and prostate gland are unaffected.

Unlike syphilis, tuberculosis begins in the epididymis, and the testis is involved by extension. Some believe that hematogenous infection of the epididymis may occur, but the consensus of opinion is that it is secondary to tuberculous foci in the genito-urinary tract. One or both epididymi may be involved. The process usually begins in the tail of the epididymis with the formation of tubercles in the epithelium or wall. The tubercles undergo caseation, become confluent and the inner layers of the tubules are destroyed. The organ gradually becomes a caseous mass surrounded by dense fibrous tissue (Fig. 2). The testis may remain unimpaired, but at times tubercle bacilli are disseminated along the seminiferous tubules or through lymphatics, giving rise to scattered tubercles. The isolated tubercles may coalesce later, and the entire organ may be converted into a caseous mass, although this is very rare. The tuberculous process may extend through the tunica vaginalis or to the skin of the scrotum forming fistulae or fungus ulcerations. As the infection of the

epididymis is secondary to some other focus in the genito-urinary tract, the vas deferens, seminal vesicles, prostate gland, bladder, or kidneys, usually present evidences of involvement. This is in distinction to syphilis in which these organs are not affected.

Malignant new growths of the epididymis are pathologic curiosities and benign tumors of the testis are exceedingly rare. A safe rule is to consider all tumors of the testicle malignant until proved otherwise by microscopic studies. Nearly all the new growths contain elements of the three primary germ layers and therefore are teratomas. Much confusion in the nomenclature of these tumors has resulted from the fact that the cells of one of the germ layers overgrows those of the other two. Therefore, the tumors may have the histologic characteristics of sarcoma, carcinoma, seminoma, chorio-epithelioma, etcetera. For clinical purposes they should all be considered as highly malignant. They may occur at any age but generally are encountered during the period of actual sexual life. These tumors grow slowly or rapidly, but tend to retain the shape of the testis until they break through the tunica albuginea (Figs. 3 and 4). When confined by the tunica they are smooth, hard, or soft. The skin of the scrotum is freely movable over the mass. If the growth breaks through the tunica the tumors be-



Fig. 2. Tuberculous epididymo-orchitis. Note that the process is almost entirely confined to the epididymis which is sharply demarcated.

come nodular and the scrotal skin becomes adherent. They frequently extend along the spermatic cord, but the epididymis remains intact until invaded by extension of the tumor when it cannot be differentiated. Metastases occur by way of the

blood or lymphatic streams. The common sites for secondary growths are the liver, kidneys, lungs, brain, the iliac, retroperitoneal, epigastric, mediastinal and cervical lymph nodes. The inguinal nodes



Fig. 3. Teratoma of the testis with hemorrhage. The epididymis was not involved.

are only involved when the tumor invades the skin of the scrotum.

DIFFERENTIAL DIAGNOSIS

The basis of the differential diagnosis of these three lesions of the testis is a full knowledge of the patient's general condition. This is gained only by a complete history, by a thorough physical examination, and by the use of the necessary laboratory tests. Without the knowledge thus determined it is practically impossible to evaluate correctly the local physical findings. The main facts to be elicited in the general examination are whether the patient gives a history, or presents physical findings indicating that he has syphilis, tuberculosis, or abdominal or thoracic metastases. The Mantoux test should be done as a routine measure. A

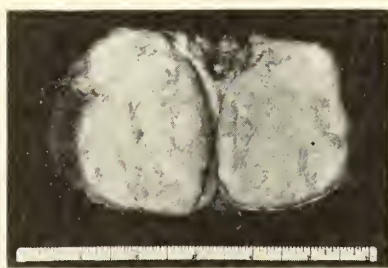


Fig. 4. Seminoma of the testis. The epididymis was not involved.

negative Mantoux test rules out tuberculosis, although a positive reaction does not necessarily mean that the local condition is tuberculous. It does mean, however, that further investigation of the genito-urinary tract should be made. The Wassermann or other serologic tests should also be routine in all testicular lesions because syphilis may closely simulate a tumor. The urine, too, should be examined for evidences of tuberculous infection.

When the general examination has been completed, the local one should be carried out systematically with the differences in the pathologic processes in mind. Both testes and epididymis should be examined. If the testis is primarily involved, and the patient has a suggestive history, other stigmata or positive serologic tests for syphilis, the lesion is almost certainly syphilitic. An exceedingly rare exception is when a patient with syphilis also has a new growth of the testis. In general the syphilitic testicle is moderately enlarged, hard, smooth, unduly heavy for its size, and neither painful or tender. If a gumma opens on the surface of the scrotum, it will present the characteristics of a syphilitic ulcer. The opposite testis may also be involved. The fibrotic testis is usually small, hard, and insensitive. The "billiard-ball" testis may resemble a true tumor but in all cases of doubt an intensive course of antisymphilitic treatment will cause a rapid and progressive diminution in size. A temporary decrease followed by an increase in size indicates a tumor.

The onset of tuberculous epididymitis, which is often bilateral, is insidious or subacute. The lesion remains localized in the epididymis for some time and can be felt as a local, or generalized, tender, nodular thickening, distinctly separate from the testis. Later the testis, and at times, the scrotal tissues are involved. Early the testis has a shotty feeling, is only slightly enlarged but is tender. When the scrotal tissues are invaded or sinuses form, tubercle bacilli may be shown in the discharge. The clinical picture is that of chronic inflammatory disease. The urine may show tubercle bacilli as some other part of the genito-urinary system is almost certainly affected.

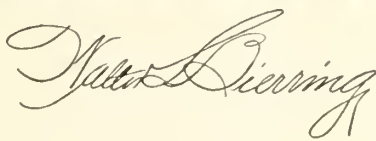
While the onset of tumors of the testis is insidious, after being detected they usually progress steadily and more or less rapidly. Therefore, the organ which is the site of a tumor is likely to be much larger than one with a gumma. The mass retains the shape of a testis, is smooth, soft or hard, tender but rarely painful. The skin of the scrotum is freely movable over the mass. The spermatic cord may be thickened, but the epididymis can be easily differentiated, until invaded by the tumor. The remainder of the genito-urinary organs and the urine present no characteristic findings.

In conclusion it can be stated that the diagnosis of syphilis, tuberculosis, and tumors of the testis, demands a knowledge of the pathology of each condition, as well as complete and thorough clinical studies with efficient clinical records.

REFERENCE

Dew, Harold R.: *Malignant Disease of the Testicle*, Paul B. Hoeber, New York, 1926.

STATE DEPARTMENT OF HEALTH



VENEREAL DISEASE CONTROL CONFERENCE Washington, D. C., December 28-30, 1936

A conference was held in Washington, D. C., December 28 to 30, under the chairmanship of Surgeon General Parran, United States Public Health Service, to consider a nationwide program for the control of syphilis and gonorrhea. It was a historic gathering, being the first time that such a conference has been held in this country, with an attendance of more than 700 delegates including physicians, public health officers, nurses and representatives of social service and welfare organizations. Forty-four states were represented as well as the Canal Zone, Alaska and Hawaii. The delegation from Iowa was composed of Drs. Barnes and Jeans from Iowa City, Drs. Haygood, Jordan, Sharon, Miss Alyce Rooney, R.N., and the Commissioner from the State Department of Health, Des Moines.

The program of the conference covered a three day period: general addresses were given on the first day; special section programs on the second; and a comprehensive summation on the last day in the form of reports from each chairman with recommendations, which in each instance were adopted by the conference. The essential features contained in these reports present a fair summary of the conclusions of the conference.

Many estimates have been made of the incidence of venereal disease in the United States, but the difficulty of obtaining any accurate figures is generally recognized. Dr. Wm. F. Snow, Director, American Social Hygiene Association, estimated that 6,000,000 men, women and children in this country are afflicted with syphilis and about twice that number suffer with gonorrhea. Assistant

Surgeon General Vonderlehr, United States Public Health Service, estimated that 1,140,000 patients annually come under treatment for the first time, of whom 518,000 have early syphilis, and 596,000 have late syphilis. It is also estimated that 4.3 out of 1000 people in the United States are constantly under medical care for syphilis, making an approximate total of 683,000 patients. According to a study made in and about Washington it is estimated that each case of syphilis during its period of infectiousness produces 1.5 new cases. The annual incidence of fresh infections is four per 1000 or approximately 518,000

persons. Syphilis also causes approximately fifteen per cent of the diseases of the heart and blood vessels, and about eleven per cent of the insanities and feeble mindedness, to say nothing of the other late and disabling manifestations. The incidence in the negro race is relatively higher.

The important features of a syphilis control program can be placed under two main headings: first, case finding, and second, adequate treatment.

1. To find syphilis the following is necessary:

- a. Free statewide facilities for laboratory diagnosis.
 - b. More extended use of dark field examinations of material from suspected cases.
 - c. Better system of reporting. The ideal method is to report each new case by name only, but for practical purposes the identity of the case can be maintained by reporting the initials and date of birth.
2. To insure adequate treatment during the infectious and later stages, the following is required:
- a. A more widespread distribution of present knowledge regarding diagnostic procedures,

PRESIDENT ROOSEVELT'S Greeting to the Conference

"It is my understanding that out of your deliberations there will come a statement of principles and methods which should be useful to every community in the country in applying most effectively the scientific knowledge which we have to minimize the serious hazards to public health.

"The federal government is deeply interested in conserving the resources of the country by all appropriate methods. The attainment of your objectives would do much to conserve our human resources and would reduce considerably the present large costs for the community care of the disastrous end results of the venereal diseases.

"You have my best wishes for success."

clinical manifestations, and the character of specific treatment.

- b. Free statewide distribution of drugs, such as the arsenicals, the heavy metals, and in certain conditions, mercury in the form of fifty per cent ointment.
- c. Qualified consultant service and subsidized treatment facilities under trained professional personnel, preferably in connection with standardized hospitals.

By these measures, adequately applied, all syphilis can be controlled.

The control of prenatal syphilis presents the same problems as the control of all syphilis, except that it is made somewhat easier by the circumstances of pregnancy for case finding at a critical moment in the control of congenital syphilis. As aptly stated by Dr. John H. Stokes, "If early syphilis were successfully treated, the tragic results of later stages of the disease, syphilis in the expectant mother, and congenital syphilis, would be prevented."

In these discussions the rôle of the private physician was emphasized as the essential part of any scheme of syphilis control. Without his cooperation the task becomes impossible. For large areas and larger groups of the population he is the case finder, the one who treats the patient and the one who advises in the social and public health situation created by the infection. Successful public health control of syphilis is dependent upon the cooperation of the practicing physician and the organized professions of medicine, dentistry and nursing.

It was announced that the Board of Trustees of the American Medical Association at a recent meeting where Surgeon General Parran was present, gave the assurance of the fullest cooperation of this association with all the facilities at its command. Presidents and other officers of state medical societies present at the conference likewise expressed support and cooperation in the proposed nationwide program for the control of venereal disease. The success of the conference was due largely to the publicity given its findings by the press, and the newspapers and magazines throughout the country, particularly the dailies in the larger cities which have exerted an important influence in bringing the subject out "into the open" and stimulating public interest everywhere.

The responsibility for an effective program to control syphilis and gonorrhea in Iowa rests with the following forces: the practicing physician, the state medical society and constituent county societies, the public, and the state and local departments of health. In accordance with the request

of the Surgeon General of the United States Public Health Service, Dr. Prince E. Sawyer, President of the Iowa State Medical Society, has appointed the following state committee on Venereal Disease Control: Gordon F. Harkness, M.D., Davenport, Chairman; William E. Ash, M.D., Council Bluffs; Francis R. Holbrook, M.D., Des Moines; P. C. Jeans, M.D., Iowa City; Ruben Nomland, M.D., Iowa City; Lawrence E. Pierson, M.D., Sioux City; E. D. Plass, M.D., Iowa City; Herbert W. Rathe, M.D., Waverly; and Lee Roy Woodward, M.D., Mason City. This committee will have a conference with the State Department of Health early in January to determine the policy and plan to be carried out in Iowa. The State Department of Health will be represented in conference by Walter L. Bierring, M.D., Commissioner; E. M. Myers, M.D., Chairman, State Board of Health; Marvin F. Haygood, M.D., Director Local Health Services; Carl F. Jordan, M.D., Director Preventable Diseases; M. E. Barnes, M.D., Director State Hygienic Laboratories; and Miss Alyce M. Rooney, R.N., Acting Director Public Health Nursing. Through special publications of the State Medical Society and the State Department of Health, and in the columns of the JOURNAL, the progress of the program will be reported.

With a united front there is every assurance that Iowa will meet this challenge to the credit of her people and the state.

Walter L. Bierring, M.D.

COMMUNICABLE DISEASE OCCURRENCE IN 1936

The following series of diagrams show the expected and observed occurrence of certain communicable diseases for the year 1936. Eight diseases are considered; namely, diphtheria, measles, meningococcic meningitis, poliomyelitis, typhoid fever, scarlet fever, smallpox and whooping cough. The expected number of cases for each disease is based upon past experience and represents in all but one instance an average of the total cases reported during a nine year period (1927-1935). The observed number for 1936 is the actual number of cases of each disease reported to the Iowa State Department of Health during the twelve months of the year.

The expected number of deaths from each cause is likewise based upon an average of the deaths recorded for the nine year period, 1927-1935. Observed deaths for 1936 represent those actually recorded during the year (first eleven months). A glance at each of the diagrams will show what happened in 1936 as regards morbidity and mortality due to the above mentioned causes.

DIPHTHERIA

It is apparent from the accompanying graph (Fig. 1) that diphtheria was not nearly as prevalent as was expected in 1936. Reported cases for the year totaled 289, whereas the expected num-

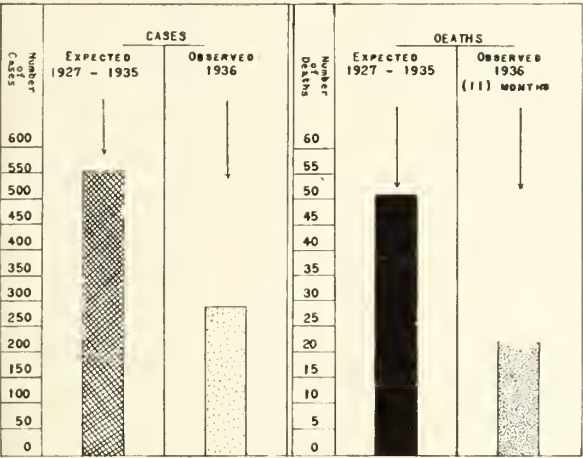


Fig. 1.

DIPHTHERIA IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

ber (nine year average, 1927-1935) was 551. The year 1936 witnessed a marked decrease in the number of deaths from diphtheria. Although at least 52 deaths were expected, based on the experience of the nine year period, 1927-1935, only 22

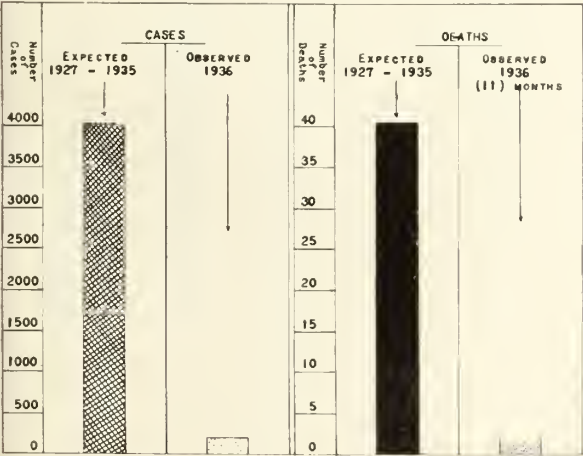


Fig. 2.

MEASLES IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

deaths actually occurred (first eleven months). It seems altogether likely that this marked reduction in diphtheria morbidity and mortality is due in large measure to immunization projects which, particularly in 1936, reached a large number of Iowa infants and preschool children.

MEASLES

The year 1936 was an off year for measles in Iowa. This is apparent from the bar diagram (Fig. 2).

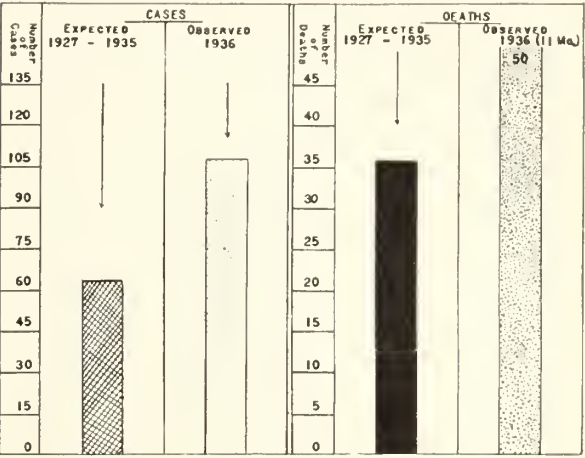


Fig. 3.

MENINGOCOCCIC MENINGITIS IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

MENINGOCOCCIC MENINGITIS

Undue prevalence of this disease occurred in 1936. (See Fig. 3.) With normal prevalence, 64 cases and 36 deaths would have been expected.

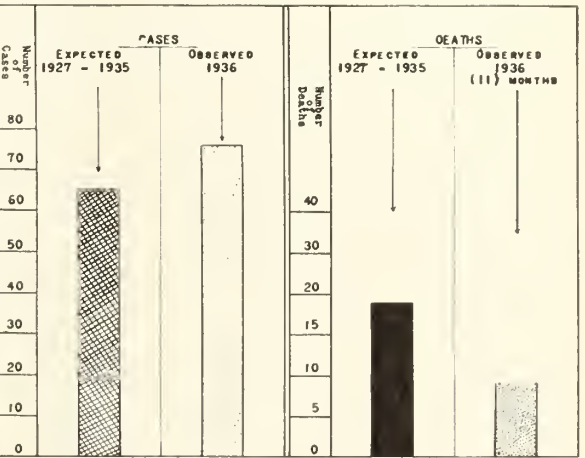


Fig. 4.

POLIOMYELITIS IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

Actual figures for the year show 107 reported cases and 50 deaths (first eleven months).

POLIOMYELITIS

Seventy-six cases of poliomyelitis were reported to the State Department of Health in 1936; the expected number was 64. Fatalities for the first eleven months numbered nine. (See Fig. 4).

SCARLET FEVER

Cases of scarlet fever reported in 1936 totaled 5,805, over twice the expected number of 2,790

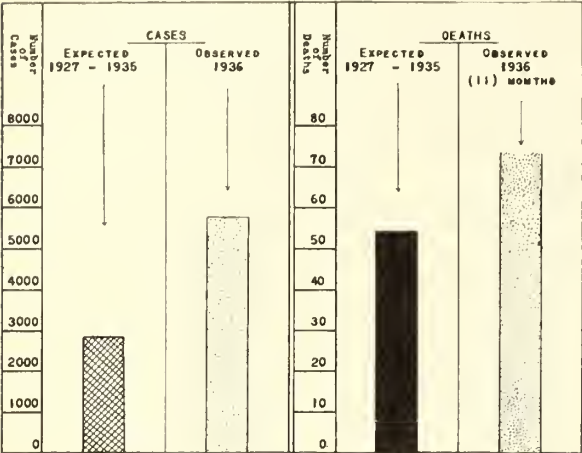


Fig. 5.

SCARLET FEVER IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

(Fig. 5). Seventy-two deaths recorded for the first eleven months were much in excess of the 55 deaths expected for the entire year. Of the total number of cases, 4,489, or 77 per cent, were reported during the first six months of the year.

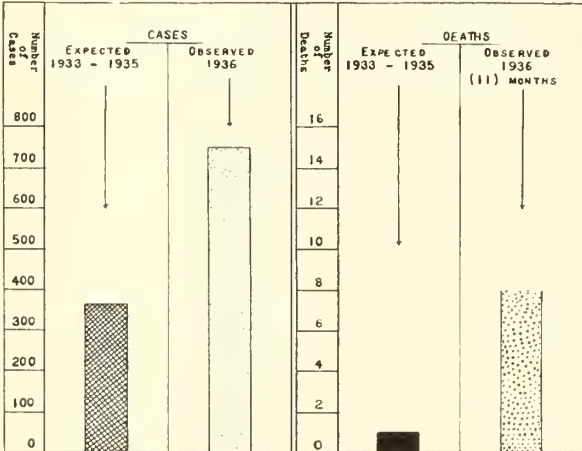


Fig. 6.

SMALLPOX IN IOWA—1936.

Diagram shows cases and deaths for 1936 as compared with the expected number, based on a three-year average, 1933-1935.

SMALLPOX

With 747 cases for the year, many more than the expected number of 363 cases were reported. Smallpox was a primary or contributory cause of eight deaths, recorded for the first eleven months. (See Fig. 6).

TYPHOID FEVER

Reported cases in 1936 numbered 141; the expected number was 174. The expected number of

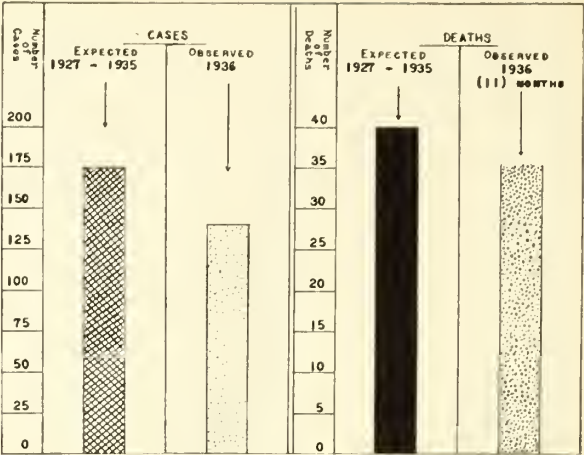


Fig. 7.

TYPHOID FEVER IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

fatalities was 40; recorded deaths numbered 36 (first eleven months). (See Fig. 7.)

WHOOPING COUGH

Seven hundred eighty-five cases were reported in 1936, the expected total was 877. Fatalities (first eleven months) numbered 34, with 81 deaths as the expected average, based on the experience of the nine year period, 1927-1935. (Fig. 8.)

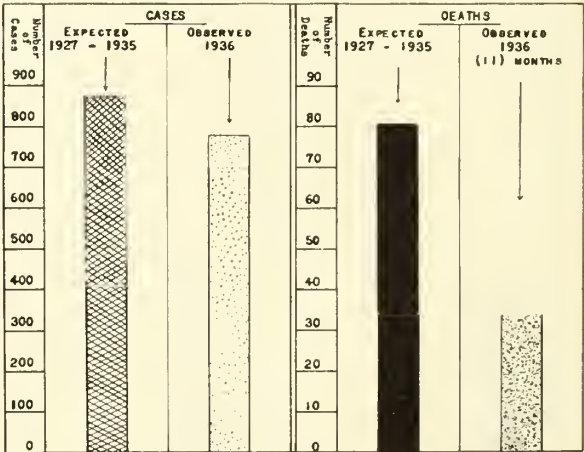


Fig. 8.

WHOOPING COUGH IN IOWA—1936.

Diagram showing cases and deaths observed in 1936 in relation to the number expected, based on a nine-year average for 1927-1935.

PREVALENCE OF DISEASE

	Nov. '36	Oct. '36	Nov. '35	Most Cases Reported From
Diphtheria	19	28	88	Polk, Black Hawk
Scarlet Fever	306	252	418	(For State)
Typhoid Fever	16	22	43	Davis, Lee
Smallpox	19	20	10	Woodbury, Cherokee, Clarke
Measles	11	15	23	(For State)
Whooping Cough	136	93	109	Black Hawk, Boone, Allamakee
Cerebrospinal Meningitis	5	6	7	(For State)
Chickenpox	386	123	354	(For State)
Mumps	66	19	443	Grundy, Webster
Polioomyelitis	12	27	6	Jasper
Tuberculosis	62	98	15	(For State)
Undulant Fever	9	15	4	(For State)
Syphilis	110	120	102	(For State)
Gonorrhea	131	148	149	(For State)

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No. 1

GREETINGS

With this issue of the JOURNAL your new editor takes up his task, happy in the thought that he is not immediately to be plunged into the darkness of unknown by-ways, but is to be guided and assisted by Dr. Simmons who for the past decade has served you so faithfully and so well. It is our hope and our ambition that in the next decade the JOURNAL may continue the steady growth it has had under his able direction. If it be true, as we think it is, that the quality of the JOURNAL is directly dependent upon the quality of medical practice within our state, then we have no fear for the realization of our hopes and ambitions.

The JOURNAL is the official mouthpiece of the Iowa State Medical Society as a whole. Its primary function is to provide its readers with news of the latest developments in authoritative medical knowledge. It is our opinion that numbered among the membership of our Society are many who by experience and knowledge are capable of contributing messages of real value to their fellow practitioners. Upon these we urge a realization of their obligation, and offer an assurance that their contributions will receive every consideration for the pages of the JOURNAL. To those who have suggestions for improving the JOURNAL we would say that our ears are attentive and our minds always open. We shall continue the efforts of our predecessor to bring to you the news of your society, the activities of your officers and committees, and such other problems pertaining to the practice of medicine as time and space shall permit.

With the beginning of a new year we take this opportunity to greet you, and to beseech your continued cooperation in our joint effort to make the JOURNAL of ever increasing interest and value to you. To this end we dedicate our services.

MORE THOUGHTFULNESS IN MEDICATION

Whether you write prescriptions or dispense your own medicines, either process should be carried out with more thought and consideration, not only in the careful combination of remedies in the prescription, but with the same care in dispensing. Your attitude in performing either one of these functions may have no small influence on the psychologic effect, and indirectly on the therapeutic results, to be obtained in the treatment of your patient. Write the prescription after having finished the examination when you can sit down at your desk and be observed by the patient. He will appreciate the thoughtful care you are giving him in the carefully written prescription. If dispensing, use the same care and write instructions carefully.

The most careless habit one can develop is to tell the patient to get "so-and-so" at the drug store. His neighbor has perhaps told him to do that before he has come to see you. The neighbor's advice cost him nothing; he is paying for yours.

On numerous occasions the writer has observed that the alertness of an ethical pharmacist has prevented a serious accident. In the writer's thirty years in the general practice of medicine, it has been his observation that the pharmacists of the state are well-trained, ethical, professional men, meriting your cooperation. By prescribing proprietary preparations with which the pharmaceutical detail man has supplied you, no therapeutic knowledge has been employed other than that recited by the salesman. He has learned his speech by training in the house before he is sent out; so has a bond salesman. The question "Has the product been accepted by the Council on Pharmacy and Chemistry of the American Medical Association?" will usually stop the first salesman, and the question "How much of your own personal funds are invested in this particular issue?" will usually stop the second salesman. No proprietary medicine should be prescribed or dispensed unless you are familiar with its formula. Even then, the pharmacist could help you in compounding a better remedy at a saving to the patient and a profit to himself. The pharmacist in the community needs your business and you need him.

The writer has observed another careless habit in dispensing samples which have been left at the office. Dispensing of such samples with literature attached will lead to self-medication for which we may be held responsible. It also encourages the patient to go to the drug store and purchase the product which is in most cases a proprietary medicine, expensive to the patient, with little profit to the druggist, and a loss to the physician. In fact,

it is profitable to only one party—the manufacturer of the proprietary preparation.

Morris Daner in his "Prescription Manual" says, "The prescription, a vital factor in bringing relief to the ailing, merits more than ordinary consideration. The prescription is the medium by which the advantages of skillful diagnosis and painstaking attitude on the part of the physician are made available in the relief of affliction and the care of all who are helpless. And what can be a greater incentive to unceasing and scrupulous care in the writing and compounding of the prescription in its varied phases?"

YOUR NAME IS YOUR TRADEMARK

The man who devised the epigram, "You may as well kill a dog as to give it a bad name," surely must have had in mind physicians, since there is no class of men whose success is more intimately determined by their reputation than physicians. How often have we observed a physician's career blighted in a particular community by an unavoidable medical accident, an unsuccessful operation, or, perhaps the unfortunate loss of a mother or babe at childbirth. In other instances, we have seen a physician's usefulness in a community diminish after he has permitted his name to be used by unpopular factions or as the sponsor of political aspirants unworthy of public confidence. On the other hand, we have all observed a new physician firmly established in a particular community by his successful attendance to a group of patients suffering from what the laymen considered grave illnesses. Judgment, then, is not based on what a man is; but, unfortunately for the physician, he is judged by his reputation, and reputation is that which he seems to be. Fortunate, indeed, is the physician whose reputation and whose character are so harmoniously blended that the public accepts him for his true worth. Character is indestructible but, alas, reputations may be made or destroyed overnight. Your name, then, is a priceless possession which the world accepts as a trademark of you. Like the breath of life, your name came to you and, also, like life, it is yours to the end and, should your achievement or conduct grace your name, it may live long after you are gone.

How, then, can the physician maintain his trademark and keep it unsullied when pitfalls abound on every hand? Unfortunately, there is no universal recipe. Sober living and judicious conduct, both widely accepted character builders, may fall short in providing an envious reputation. Be assured, however, that such a dire calamity is the exception rather than the rule and, as such, does

not dishonor the precept. Be proud of your name; be jealous of it; never permit its use except in a cause fully understood and well studied. While it is usually easier to say yes than no, the yes attitude is as dangerous as a negative one. Realize that you are building day by day and hour by hour and let no matter, however trivial, divert you from your task of thoughtfulness. The records of today form the history of success or failure tomorrow, but do not put off your responsibility in the protection of your trademark until its integrity has been assailed and serious damage has been done. If your name can be listed among the able and far-sighted in your community, if your daily conduct has inspired confidence, and if your judgment has reflected a thoughtful attitude, your name and your integrity will become that enviable trademark which, like "Sterling," impresses those with whom it comes in contact.

MEMBERSHIP

As Iowa physicians turn over the leaves of their calendars in these first days of the New Year, it is to be hoped that in a conspicuous place will be recorded this memorandum: 1937 dues are now due! At such a time, a resumé of the membership record of the Society for the past year will be of interest.

In twenty-four of the ninety-seven component societies in Iowa, every eligible physician in the county was a member of his medical society in 1936. These societies maintaining 100 per cent membership deserve sincere commendation from the rest of the state. These honor societies are: Adair, Adams, Audubon, Boone, Calhoun, Emmet, Floyd, Henry, Howard, Ida, Lyon, Madison, Marshall, Monona, Osceola, Poweshiek, Ringgold, Scott, Story, Tama, Van Buren, Washington, Winneshiek and Wright. It is also of interest to note that most of these societies have upheld this enviable record over a period of years. In thirty-eight other societies every physician who was a member in 1935 maintained his membership standing in the year 1936.

The fifty-seven delinquent members were distributed among the remaining thirty-five counties. For purposes of comparison, the membership of the various societies is rated by district, the highest rating going to those districts having the lowest number of delinquent members. The sixth and ninth districts tied for first place, with only two delinquent members in each district. In those two districts there was one delinquent member in each of four counties: Black Hawk, Jasper, Marion and Monroe. The second district ranked

(Continued on page 43)

WOMAN'S AUXILIARY NEWS

Edited by the Press and Publicity Committee

MRS. DEAN W. HARMAN, *Chairman*, Glenwood, Iowa

PROGRAMS FOR COUNTY MEDICAL AUXILIARIES

The following suggestions for programs during 1937 have been prepared by the Program Committee of the Woman's Auxiliary to the Iowa State Medical Society:

1. Health in Our Schools (Speakers: school nurse, athletic supervisor, district health chairman of the P. T. A.).
Periodic Health Examinations.
Tuberculin Tests.
Health of Teachers (Physician speaker).
2. Basic Science Law in Iowa.
Quackery.
How to Choose a Doctor. (Group discussion.)
3. Importance of Conservation of Eyesight. (Adult and child.)
Feet. (Athletic feet, posture, sleep.)
4. Allergy. (Nutrition, diet, foods, pets, pollen.)
Food Facts.
Balanced Diet.
5. Progress in Preventive Medicine.
Outstanding Medical Advances.
6. X-Ray, Radium Therapy.
7. Whooping Cough, Complications.
Quarantine and Placard Laws.
Common Colds.
8. Vacations.
Recreation and Exercise.
Ventilation.
9. Cancer Control.
Immunization.
Sex Problems (under direction of county medical society).

SUGGESTIONS TO PRESIDENTS

It will be necessary to adapt these program suggestions to your local needs. The Committee feels that the benefit of Number 1 lies in creating a friendly feeling with school officials and in stressing the fact that health programs and needs should be brought to medical sources. A physician speaker on the same program allows for an exchange of viewpoint always benefiting all concerned.

Number 2 will acquaint you with our need for the Basic Science Law and will further familiarize you with quackery and its products. The literature prepared by the American Medical Association on "How to Choose a Doctor" is most enlightening.

Number 3. *Hygeia* has excellent material on all these subjects. This meeting might readily be referred to as "Charm School" or some other intriguing term. In fact a reliable beauty specialist would probably welcome the opportunity to give a short discussion at such a meeting and therein you might find the opportunity to give her some statistics on harmful dyes and quackery cosmetics.

Number 4. The study of allergy could be in your group or in connection with a trip through hospitals, school diet kitchens or perhaps a hotel. In connection with this you will uncover our lax food laws. Again this could branch into a discussion of proper sanitation and the amebic dysentery epidemic of recent years.

Numbers 5 and 6 are rather definite.

Number 7 again brings out the possibility of familiarizing ourselves with quarantine and placard laws, health programs and school cooperation.

Number 8 stresses an all important question; namely, that of recreation for physicians. The subject of recreation may lead to hobby discussion; that of ventilation to modern air conditioning.

Number 9 verges on public relation work with the county medical society and should not be attempted without the full cooperation of the medical society.

Should public health meeting programs be held under the county society? It has been successful in some districts for the auxiliary or medical society to print tickets which are distributed to your friends as you urge them to attend. It is also helpful to ask everyone in your group to read up on discussions to lend more interest. It might be well in some groups to assign the program to three or four individuals and have the group present its own program. Care should be taken not to duplicate P. T. A. and Woman's Club activities. In rural districts members giving papers should mail a copy to the President several days preceding the meeting, if for any reason she cannot attend, so that her paper could be read and discussed in her absence.

Program planning calls for ingenuity and enthusiasm and conscientiousness. Groups interested in outside activities will communicate with the Public Relations Chairman on that subject. The Committee is anxious to serve you in any needed capacity. The material can be obtained from the state or national program chairman or from the American Medical Association headquarters, 535 North Dearborn St., Chicago, Illinois.

Mrs. M. C. Hennessy,
Chairman Program Committee.

SOCIETY PROCEEDINGS

Adams County Annual Meeting

The Adams County Medical Society held its annual meeting Tuesday, December 8, in the office of Dr. J. H. Wallahan in Corning. The members engaged in a round table discussion of recent interesting cases, after which the following officers were named to serve during 1937: Dr. O. B. Hawley of Corning, president; Dr. A. W. Brunk of Prescott, vice president; Dr. J. H. Wallahan of Corning, secretary and treasurer; Dr. Frederick Binder of Corning, delegate; and Dr. C. L. Bain of Corning, alternate delegate.

J. H. Wallahan, M.D., Secretary

Audubon County Annual Meeting

Dr. R. F. Childs of Audubon was elected president of the Audubon County Medical Society, at the annual meeting held Tuesday, December 8, in the offices of Dr. L. E. Jensen in Audubon. Other officers include Dr. W. H. Halloran of Audubon, vice president; and Dr. Helge Borre of Audubon, secretary and treasurer.

Benton County Annual Meeting

Election of officers at the annual meeting of the Benton County Medical Society held Monday, October 26, in Van Horne, resulted as follows: Dr. T. L. Chadbourne of Vinton, president; Dr. George Yavorsky of Belle Plaine, vice president; Dr. G. R. Woodhouse of Vinton, secretary and treasurer; Dr. Yavorsky, delegate; and Dr. C. J. Snitkay of Belle Plaine, alternate delegate.

G. R. Woodhouse, M.D., Secretary

Black Hawk County Annual Meeting

The Black Hawk County Medical Society held its annual meeting Tuesday, December 15, at the Russel Lamson Hotel in Waterloo. Guest speaker for the evening scientific program was Arthur H. Parmelee, M.D., of Oak Park, Illinois, associate clinical professor of pediatrics, Rush Medical College, who presented an illustrated lecture on Intracranial Hemorrhage in the Newborn. At the business session the following officers were elected for 1937: Dr. Wade O. Preece, president; Dr. E. I. Dunkelberg, vice president; Dr. Paul T. O'Keefe, secretary; Dr. George C. Murphy, treasurer; Dr. J. E. Brinkman, delegate; and Dr. E. E. Magee, alternate delegate. All officers are of Waterloo.

Clark N. Cooper, M.D., Secretary

Boone County Annual Meeting

Dr. R. A. Gamble of Madrid was elected president of the Boone County Medical Society at the annual meeting held Tuesday, December 15, at the Holst Hotel. Other officers are: Dr. R. D. Cruikshank of Boone, vice president; Dr. Ben T. Whitaker of

Boone, secretary and treasurer; Dr. A. B. Deering of Boone, delegate; and Dr. R. S. Shane of Pilot Mound, alternate delegate.

B. T. Whitaker, M.D., Secretary

Bremer County Annual Meeting

The annual meeting of the Bremer County Medical Society was held at the Mercy Hospital in Waverly, Thursday, December 17, with E. M. MacEwen, M.D., dean of the State University of Iowa, College of Medicine, as guest speaker for the evening. Dr. MacEwen spoke on Medical Ethics. Results of the election were: Dr. M. N. Gernsey of Waverly, president; Dr. P. J. Amlie of Tripoli, vice president; Dr. E. C. Kepler of Waverly, secretary and treasurer; Dr. L. C. Kern of Waverly, delegate; and Dr. F. R. Sparks of Waverly, alternate delegate.

F. R. Sparks, M.D., Secretary

Buchanan County Annual Meeting

The Buchanan County Medical Society held its annual meeting Monday, December 21, at the Peoples Hospital in Independence. After a general discussion of the county health program and scarlet fever prevention, the election of officers was held, resulting as follows: Dr. Fred F. Agnew of Independence, president; Dr. Paul J. Leehey of Independence, vice president; Dr. Nelson L. Hersey of Independence, secretary and treasurer; Dr. H. H. Householder of Winthrop, delegate; and Dr. Agnew, alternate delegate.

Nelson L. Hersey, M.D., Secretary

Buena Vista County Annual Meeting

At the annual meeting of the Buena Vista County Medical Society, held on Monday, December 14, the following officers were elected to serve during 1937: Dr. E. F. Smith of Storm Lake, president; Dr. R. E. Almquist of Albert City, vice president; Dr. T. R. Campbell of Sioux Rapids, secretary and treasurer; Dr. M. A. Armstrong of Newell, delegate; and Dr. H. E. Farnsworth of Storm Lake, alternate delegate.

T. R. Campbell, M.D., Secretary

Carroll County Annual Meeting

Dr. O. P. Morganthaler of Templeton was reelected president of the Carroll County Medical Society at the annual meeting of that organization held in Carroll, Thursday, December 10. Also elected to office were Dr. A. F. Smith of Manning, vice president; and Dr. R. M. Morrison of Carroll, secretary and treasurer.

Cerro Gordo County Annual Meeting

The regular monthly meeting of the Cerro Gordo County Medical Society was held Tuesday, December

8, at the Hotel Hanford in Mason City, with the members of the Woman's Auxiliary and the dentists and their wives as guests of the society. The feature of the evening was an address by R. G. Leland, M.D., of Chicago, on Medical Economics and Social Security. The scientific program consisted of a short presentation on Fractures of the Wrist by George M. Crabb, M.D., of Mason City.

On Tuesday, December 15, a business meeting of the society was held, and the county contract for care of indigent patients was adopted. The following officers were elected: Dr. C. E. Dakin, president; Dr. G. M. Crabb, vice president; Dr. Harold W. Morgan, secretary; Dr. Draper Long, treasurer; Dr. E. L. Wurtzer, delegate; and Dr. H. D. Fallows, alternate delegate. Dr. Wurtzer is of Clear Lake, the remaining officers are of Mason City.

H. W. Morgan, M.D., Secretary

Cherokee County

Members of the Cherokee County Medical Society met Monday, December 23, at the Sioux Valley Hospital in Cherokee, at which time T. D. Kas, M.D., of Sutherland, presented an address on Tuberculosis by Families.

Davis County Annual Meeting

The Davis County Medical Society met Wednesday, December 23, in Dr. H. C. Young's office in Bloomfield. Harold A. Spilman, M.D., of Ottumwa, read a paper on What the Medical Profession Should know about the Social Security Bill. John C. Parsons, M.D., of Des Moines, interpreted x-ray films made of eighty-five individuals who were found with positive reactions in the recent tuberculosis survey in the county. The films had been made by Dr. H. C. Young. Election of officers at the business meeting resulted as follows: Dr. C. C. C. Heady, president; Dr. C. D. Fenton, vice president; Dr. H. C. Young, secretary and treasurer; Dr. G. W. Gilfillan, delegate; and Dr. Young, alternate delegate. All officers are of Bloomfield.

H. C. Young, M.D., Secretary

Decatur County Annual Meeting

Election of officers at the annual meeting of the Decatur County Medical Society, held at the Decatur County Hospital in Leon, Wednesday, December 9, resulted as follows: Dr. J. E. McFarland of Leon, president; Dr. W. N. Doss of Garden Grove, vice president; and Dr. E. E. Gamet of Lamoni, secretary and treasurer.

E. E. Gamet, M.D., Secretary

Delaware County Annual Meeting

Dr. E. J. Winterburg of Delhi was named president of the Delaware County Medical Society, at the annual meeting held in Manchester, Tuesday, December 8. Other officers are: Dr. F. N. Schroeder of Ryan, vice president; Dr. L. C. Garling of Manchester, secretary and treasurer; Dr. C. B. Rogers of Earlville, delegate; and Dr. J. L. Keane of Dyersville, alternate delegate.

L. C. Garling, M.D., Secretary

Des Moines County Annual Meeting

Officers elected at the annual meeting of the Des Moines County Medical Society held at the Hotel Union in Burlington, Tuesday, December 8, are: Dr. Frank G. Ober, president; Dr. John C. McKitterick, vice president; Dr. G. D. Jenkins, secretary and treasurer; Dr. John T. Hanna, delegate; and Dr. C. E. Kaufman, alternate delegate. All officers are of Burlington. The scientific program for the evening meeting was furnished by George B. Crow, M.D., of Burlington, in a paper on Degenerative Heart Disease.

G. D. Jenkins, M.D., Secretary

Dubuque County Annual Meeting

Dr. C. C. Lytle of Dubuque was elected president of the Dubuque County Medical Society at the annual meeting of that organization held at the Elks' Club in Dubuque, Tuesday, December 15. Other officers are: Dr. A. M. Loes of Dubuque, first vice president; Dr. R. C. Sherman of Farley, second vice president; Dr. L. E. Cooley of Dubuque, secretary and treasurer; Dr. L. H. Fritz of Dubuque, delegate; and Dr. F. P. McNamara of Dubuque, alternate delegate.

Emmet County Annual Meeting

Officers elected at the annual meeting of the Emmet County Medical Society held in Estherville, Thursday, December 17, include: Dr. A. I. Reed of Estherville, president; Dr. E. E. Lashbrook of Estherville, vice president; Dr. M. T. Morton of Estherville, secretary and treasurer; and Dr. O. H. Miller of Estherville, delegate.

Franklin County Annual Meeting

The Franklin County Medical Society held its annual meeting Thursday, December 31, at the Coonley Hotel in Hampton, and elected the following officers to serve the society during 1937: Dr. W. R. Arthur of Hampton, president; Dr. F. H. Rodemeyer of Sheffield, vice president; Dr. J. M. Burger of Hampton, secretary and treasurer; Dr. Burger, delegate; and Dr. E. D. Allen of Hampton, alternate delegate.

J. M. Burger, M.D., Secretary

Hamilton County Annual Meeting

The annual meeting of the Hamilton County Medical Society was held at the county hospital in Webster City, Tuesday, December 15. The annual election of officers resulted as follows: Dr. George A. Paschal of Williams, president; Dr. M. B. Cunningham of Stratford, vice president; Dr. D. W. James of Kamrar, secretary and treasurer; Dr. M. B. Gallo-way of Webster City, delegate; and Dr. G. T. McCauliff, also of Webster City, alternate delegate. The scientific section of the meeting was addressed by R. C. Crumpton, M.D., of Webster City, on the last illness and death of George Washington.

D. W. James, M.D., Secretary

Hardin County

John T. Strawn, M.D., of Des Moines, was guest speaker for the Hardin County Medical Society at a meeting held in Iowa Falls, Tuesday, December 29. Dr. Strawn presented an article on Management of Gallbladder Disease other than Surgical, and his paper was discussed by Drs. Koeneman and Cole. Mrs. Helen Roberts of the Social Service Bureau spoke on federal aid within the county.

W. E. Marsh, M.D., Secretary

Henry County Annual Meeting

Officers named at the annual meeting of the Henry County Medical Society held in Mount Pleasant, Tuesday, December 22, are: Dr. S. W. Huston, of Mount Pleasant, president; Dr. A. L. Day of Winfield, vice president; Dr. Byron D. Hartley of Mount Pleasant, secretary and treasurer; Dr. E. J. Lessenger of New London, delegate; and Dr. Huston, alternate delegate.

S. W. Huston, M.D., Secretary

Iowa County Annual Meeting

Dr. H. G. Moershel of Homestead was elected president of the Iowa County Medical Society at the annual meeting held in Marengo, Tuesday, November 24. Dr. T. D. Clark of Victor was chosen to succeed himself as vice president, and Dr. I. J. Sinn of Williamsburg was reelected secretary and treasurer. Dr. F. C. Schadt of Williamsburg was named delegate.

Jasper County Annual Meeting

On Tuesday, December 1, members of the Jasper County Medical Society convened for a dinner meeting at the Skiff Memorial Hospital in Newton. Mr. L. L. Brierly, attorney of Newton, gave a short talk on Medicolegal Testimony, after which the annual election of officers for 1937 was held, resulting as follows: Dr. Harry Ennis of Baxter, president; Dr. O. O. Carpenter of Sully, vice president; Dr. S. J. Ritchey of Newton, secretary and treasurer; Dr. Harry Engle of Newton, delegate; and Dr. S. E. Hinshaw of Newton, alternate delegate.

R. F. Frech, M.D., Secretary

Linn County

The Linn County Medical Society was addressed on Thursday, December 17, by John Royal Moore, M.D., professor of orthopedic surgery, Temple University, Philadelphia, on Fractures of the Hip. The ten minute paper was delivered by R. J. Stephen, M.D., of Cedar Rapids, on The Ophthalmoscope in General Practice.

The next meeting will be held Friday, January 15, with Karl Menninger, M.D., of the Menninger Clinic, Topeka, Kansas, as guest speaker. Dr. Menninger will speak on Various Forms of Self Destruction. A review of the year's work in the medical care of the indigents in Linn County will be given by H. M. Ivins, M.D., director of the clinic.

T. F. Hersch, M.D., Chairman of the Program Committee

Lyon County Annual Meeting

The annual meeting of the Lyon County Medical Society was held Tuesday, December 1, in Rock Rapids, at the office of Dr. L. L. Corcoran. Election of officers resulted as follows: Dr. G. M. DeYoung of George, president; Dr. A. P. Stewart of Inwood, vice president; Dr. F. B. O'Leary of George, secretary and treasurer; Dr. W. Vander Wilt of Rock Rapids, delegate; and Dr. L. L. Corcoran of Rock Rapids, alternate delegate. The newly proposed public health district was discussed by Dr. Corcoran. The secretary of the society was instructed to obtain reprints of the article on syphilis which appeared in *The Readers' Digest*, and distribute them to county school principals.

F. B. O'Leary, M.D., Secretary

Mahaska County Annual Meeting

Officers elected for 1937 at the annual meeting of the Mahaska County Medical Society held in Oskaloosa, Wednesday, December 30, are: Dr. Walter V. Campbell of Oskaloosa, president; Dr. Charles H. Merrill of Oskaloosa, vice president; Dr. L. F. Catterson of Oskaloosa, secretary; Dr. L. A. Rodgers of Oskaloosa, treasurer; Dr. P. M. Day of Oskaloosa, delegate; and Dr. W. N. Wright of Rose Hill, alternate delegate.

L. F. Catterson M.D., Secretary

Marion County Annual Meeting

The following program was presented for members of the Marion County Medical Society at a meeting held in Knoxville, Thursday, December 10: Serum Treatment of Pneumonia, C. I. Fox, M.D., of Pella; The Relation of Focal Infection to Systemic Disease, F. P. Ralston, M.D., of Knoxville; Remarks by a Member of the County Medical Relief Committee, F. M. Roberts, M.D., of Knoxville. The subject of county and district health programs was discussed by Marvin F. Haygood of the State Department of Health, Des Moines, and James P. Sharon, M.D., of the same organization, spoke on venereal disease control. A feature of the evening's program was a motion picture film on amebic dysentery.

Election of officers for 1937 resulted as follows: Dr. F. M. Roberts of Knoxville, president; Dr. E. C. McClure of Bussey, vice president; Dr. J. R. Wright of Knoxville, secretary and treasurer; Dr. C. S. Cornell of Knoxville, delegate; and Dr. Roberts, alternate delegate.

J. R. Wright, M.D., Secretary

Mitchell County Annual Meeting

Members of the Mitchell County Medical Society met in Dr. J. O. Eiel's office in Osage, Monday, December 7, for their annual election of officers. Results were as follows: Dr. T. S. Walker of Riceville, president; Dr. T. E. Blong of Stacyville, secretary and treasurer; Dr. R. L. Whitley of Osage, delegate; and Dr. G. E. Krepelka of Stacyville, alternate delegate. The society officially approved the campaign which will be conducted by the Iowa Tuberculosis Association in the Riceville schools.

T. G. Walker, M.D., Secretary

Monona County Annual Meeting

The annual election of officers of the Monona County Medical Society was held at a meeting Tuesday, December 1, in Onawa, with the following results: Dr. S. N. Anderson of Onawa, president; Dr. L. A. Gaukel of Onawa, secretary and treasurer; Dr. C. W. Young of Onawa, delegate; and Dr. E. C. Junger of Soldier, alternate delegate.

Montgomery County

Carrol C. Nelson, M.D., of Red Oak, furnished the scientific program for the Montgomery County Medical Society, when members of that group met in Red Oak, Thursday, December 3. Dr. Nelson spoke on Causes of Dystocia, after which a general round table discussion was entered into by all members present. Two motion pictures were shown; one on left medio-lateral episiotomy and repair; the other on appendectomy for acute gangrenous appendicitis.

Fred A. Hansen, M.D., Secretary

Muscatine County Annual Meeting

Officers elected at the annual meeting of the Muscatine County Medical Society at a meeting held in Muscatine, Monday, December 14, are: Dr. J. L. Klein, president; Dr. P. M. Jessup, vice president; Dr. R. M. Arey, secretary and treasurer; Dr. L. C. Howe, delegate; and Dr. G. A. Sywassink, alternate delegate.

R. M. Arey, M.D., Secretary

Page County Annual Meeting

Stephen Weiss, M.D., neuropathologist on the staff of the Psychopathic Hospital in Iowa City, presented an illustrated lecture on Some Common Lesions Found in the Brains of Insane Patients, for the Page County Medical Society at a meeting held in Shenandoah, Monday, December 14. Officers elected for this year are: Dr. F. K. Burnett of Clarinda, president; Dr. W. H. Maloy of Shenandoah, vice president; Dr. F. H. Clark of Clarinda, secretary and treasurer; Dr. B. S. Barnes of Shenandoah, delegate; and Dr. J. W. Sellards of Clarinda, alternate delegate. Dr. M. C. Hennessy, councilor for the district, was present and spoke on Medical Legislation and the Social Security Act.

F. H. Clark, M.D., Secretary

Pocahontas County Annual Meeting

The Pocahontas County Medical Society met Friday, December 4, at the court house in Pocahontas. A. W. Patterson, M.D., of Fonda, showed a series of excellent x-ray pictures to illustrate case reports. The reports and pictures were freely discussed and enjoyed by all. At the business meeting the following officers were elected for 1937: Dr. G. A. Everson of Rolfe, president; Dr. E. E. Morton of Palmer, vice president; Dr. B. A. Smillie of Gilmore City, secretary and treasurer; Dr. W. W. Beam of Rolfe, dele-

gate; and Dr. A. W. Patterson of Fonda, alternate delegate.

B. A. Smillie, M.D., Secretary

Pottawattamie County Annual Meeting

Officers elected at the annual meeting of the Pottawattamie County Medical Society held at the Hotel Chieftain in Council Bluffs, Thursday, December 10, are: Dr. Jack V. Treynor, president; Dr. Eugene B. Floersch, vice president; Dr. Fred H. Beaumont, secretary and treasurer; Dr. F. Earl Bellinger, delegate; and Dr. Gerald V. Caughlan, alternate delegate. All officers are of Council Bluffs.

F. H. Beaumont, M.D., Secretary

Poweshiek County Annual Meeting

Members of the Poweshiek County Medical Society elected the following officers to serve their society during 1937: Dr. E. S. Korfmacher, president; Dr. P. E. Somers, vice president; Dr. C. E. Harris, secretary; and Dr. J. T. Padgham, treasurer. All officers are of Grinnell. The scientific portion of the meeting was furnished by C. E. Harris, M.D., who presented a paper on Observation of Lung Disease. The meeting was held at the St. Francis Hospital in Grinnell, Tuesday, December 8.

Ringgold County Annual Meeting

Thursday, December 17, at Mount Ayr, members of the Ringgold County Medical Society met for their annual election of officers. Results are: Dr. E. J. Watson of Diagonal, president; Dr. O. L. Fullerton of Redding, vice president; Dr. J. W. Hill of Mount Ayr, secretary and treasurer; Dr. Watson, delegate; and Dr. Hill, alternate delegate.

J. W. Hill, M.D., Secretary

Sac County Annual Meeting

The Sac County Medical Society met in regular session on Friday, December 4, at the home of Dr. and Mrs. Dewey in Schaller. Twenty doctors were present, including guests from Sioux City, Ida Grove, Holstein and Carroll, and Coleridge, Nebraska. Papers on Lung Abscess and Intussusception and The Hypertonic Child were read by R. H. McBride, M.D., of Sioux City, and Walter A. Anneberg, M.D., of Carroll, respectively. Following the discussion of these papers, a buffet luncheon was served. At the business session the election of officers resulted in the selection of Dr. L. B. Amick of Sac City as president, and Dr. G. H. Bassett of Sac City as secretary and treasurer.

The society will meet next on Wednesday, January 13, in Sac City. Films accompanied by lectures will be shown on the subjects of Pernicious Anemia, Liver Therapy, and Care and Management of Pneumonia. In connection with the latter film a demonstration will be made of rabbit typing serums for the Neufeld test. Physicians from adjacent counties are cordially invited to attend this meeting at the Park Hotel at 8:00 P. M.

W. E. Hart, M.D., Secretary

Shelby County Annual Meeting

Officers selected by the Shelby County Medical Society to head the society during 1937 are as follows: Dr. E. M. Grady of Portsmouth, president; Dr. A. L. Nielson of Harlan, secretary and treasurer; Dr. E. A. Moore of Harlan, delegate; and Dr. James Bisgard of Harlan, alternate delegate. At this meeting, which was held in Harlan, Tuesday, December 15, there was a general discussion of the county district health department plan under the provisions of the Social Security Act. No official action was taken in regard to the matter.

A. L. Nielson, M.D., Secretary

Story County Annual Meeting

Members of the Boone and Story County Medical Societies met at the Sheldon-Munn Hotel in Ames, Wednesday, December 2, for one of this group's regular meetings. Ben G. Budge, M.D., of Ames, presented a clinic of ten patients demonstrating his results in using mandelic acid in the treatment of bacilluria. Joseph B. Priestley, M.D., of Des Moines, opened the discussion. This was a most interesting subject, exceptionally well presented, and the discussion brought out details of this new treatment in bacilluria.

At the close of the meeting, members of the Story County Medical Society convened for a short business session and elected the following officers to serve the society during 1937: Dr. Ben G. Budge of Ames, president; Dr. G. E. McFarland, Jr., of Ames, vice president; Dr. E. B. Bush of Ames, secretary and treasurer; Dr. Bush Houston of Nevada, delegate; and Dr. K. C. Piercy of Maxwell, alternate delegate.

E. B. Bush, M.D., Secretary

Tama County Annual Meeting

After a dinner meeting of the Tama County Medical Society held in Toledo, Friday, December 11, the following officers were named to head the society during this year: Dr. A. A. Pace of Toledo, president; Dr. Ira D. Nelson of Toledo, vice president; Dr. C. H. Maplethorpe of Toledo, secretary and treasurer; and Dr. A. A. Crabbe of Traer, delegate.

A. A. Crabbe, M.D., Secretary

Van Buren County Annual Meeting

Officers elected at the meeting of the Van Buren County Medical Society held at the Manning Hotel in Keosauqua, Tuesday, November 24, are as follows: Dr. L. A. Coffin of Farmington, president; Dr. H. E. Woods of Birmingham, vice president; Dr. C. R. Russell of Keosauqua, secretary and treasurer; Dr. E. E. Sherman of Keosauqua, delegate; and Dr. H. J. Gillfillan of Cantril, alternate delegate.

C. R. Russell, M.D., Secretary

Wapello County Annual Meeting

L. H. Prewitt, M.D., of Ottumwa, was the speaker of the evening for the meeting of the Wapello County Medical Society held in Ottumwa, Tuesday, December 1. Dr. Prewitt presented a paper on Laryngeal

Allergy. At the business meeting the following officers were named for 1937: Dr. D. O. Bovenmyer, president; Dr. L. H. Prewitt, vice president; Dr. Edward B. Hoeven, secretary and treasurer; Dr. E. B. Howell, delegate; and Dr. D. McElderry, alternate delegate.

E. B. Hoeven, M.D., Secretary

Washington County Annual Meeting

Members of the Washington County Medical Society met Tuesday, December 1, in Washington, for a turkey dinner, after which W. D. Paul, M.D., of Iowa City, presented a paper on Diabetes. Officers elected at the business session are: Dr. M. L. McCree of Brighton, president; Dr. F. M. Mahin of Ainsworth, vice president; Dr. W. S. Kyle of Washington, secretary and treasurer; Dr. W. L. Alcorn of Washington, delegate; and Dr. E. E. Stutsman of Washington, alternate delegate.

W. S. Kyle, M.D., Secretary

Winneshiek County Annual Meeting

Officers elected to serve the Winneshiek County Medical Society during the current year are: Dr. E. F. Hagen of Decorah, president; Dr. L. E. Larson of Decorah, vice president; Dr. L. J. Hospodarsky of Ridgeway, secretary and treasurer; Dr. J. J. Daly of Decorah, delegate; and Dr. J. G. Goggin of Ossian, alternate delegate. The meeting was held Tuesday, December 22, at the Decorah Hospital in Decorah.

L. J. Hospodarsky, M.D., Secretary

Woodbury County Annual Meeting

Pottawattamie county physicians furnished the program for a meeting held in Sioux City, Tuesday, December 8, when members of the Pottawattamie and Woodbury County Medical Societies gathered at the West Hotel for dinner. The following program was presented: Review of Indications for Masteidectomy, Jack V. Treynor, M.D.; The Treatment of Placenta Praevia, R. M. Collins, M.D.; and Pathology of the Hip Joint, Karl R. Werndorff, M.D. The papers were discussed by Drs. Roost, Reeder, Naftzger, Gittins, Martin and O'Donoghue. The annual election of officers resulted as follows: Dr. T. R. Gittins, president; Dr. E. E. Morgan, vice president; Dr. W. H. Gibbon, secretary and treasurer; Dr. Charles Maxwell, delegate; and Dr. Walter Harriman, alternate delegate. All officers are of Sioux City.

W. H. Gibbon, M.D., Secretary

Wright County Annual Meeting

The Wright County Medical Society met at the Moore Hotel in Clarion, Wednesday, December 9, and elected the following officers for 1937: Dr. L. D. McNaughton of Eagle Grove, president; Dr. H. P. Walker of Clarion, vice president; Dr. J. R. Christensen of Eagle Grove, secretary and treasurer; Dr. R. D. Bernard of Clarion, delegate; and Dr. G. E. Schnug of Dows, alternate delegate.

J. R. Christensen, M.D., Secretary

PERSONAL MENTION

Dr. M. B. Call, of Greene, spoke before a business men's organization in Cresco, Monday, December 7, on "The Advantages of Regular Physical Examination."

Dr. Erwin von Graff is leaving his present location in Des Moines, to practice in New York City.

Dr. Oliver J. Fay, of Des Moines, spoke Wednesday, December 16, to junior and senior medical students at the State University of Iowa, College of Medicine, in Iowa City, on the subject, "Socialized Medicine."

Dr. W. B. Casey, who has practiced for two years in Casey, has left that location and gone to Memphis, Tennessee, where he will continue the private practice of medicine.

Dr. W. C. Goenne, of Davenport, presented an illustrated lecture on "Bone Surgery" at a meeting of the Laymen's League, Wednesday, December 16.

Dr. Arthur Steindler, professor of orthopedic surgery, State University of Iowa, College of Medicine, was elected a member of the board of governors of the American College of Surgeons, at a recent meeting of that organization in Philadelphia.

DEATH NOTICES

Avery, Harold LeRoy, formerly of Primghar, aged fifty-six, died at his home in Pasadena, California, December 6, after several years' illness. He was graduated in 1905 from the University of Illinois, College of Medicine, and had long been a member of the O'Brien County Medical Society.

Blum, David Mitchell, of Des Moines, aged thirty-eight, died suddenly December 13, after a heart attack. He was graduated in 1922 from Rush Medical College, and at the time of his death was a member of the Polk County Medical Society.

Hough, Frank Sherman, of Sibley, aged seventy-two, died December 3 from diabetes. He was graduated in 1890 from the Michigan College of Medicine and Surgery, Detroit, and at the time of his death was a member of the Osceola County Medical Society.

Murphy, Frank J., of Sioux City, aged seventy-one, died December 23 after an illness of several months. He was graduated in 1887 from Rush Medical College, and at the time of his death was a member of the Woodbury County Medical Society.

Palmquist, Nathaniel, of Smithland, aged fifty-eight, died in Des Moines following a sickness complicated by a cardiac condition. He was graduated in 1909 from Barnes Medical College, St. Louis, and had been a member of the Woodbury County Medical Society for many years.

MEMBERSHIP

(Continued from page 36)

second, with three delinquent members—two in Kossuth county and one in Worth. The first, tenth, and eleventh districts vied for third place, having five delinquent members in each district. The delinquents by counties in those districts were: first district, Allamakee, two; Fayette, three; tenth district, Taylor, two, and Warren, three; eleventh district, Cass, one; Harrison, one; Mills, one; and Pottawattamie, two. The fourth and fifth districts followed closely with six delinquent members, thus sharing fourth place. In the fourth district there was one delinquent in each of Carroll, Crawford, Plymouth, and Sac counties and two in Cherokee county. The delinquent members in the fourth district were Webster, one; Hamilton, three; and Polk, two. The third district came in for fifth place, with seven delinquent members, distributed as follows: Dickinson, one; Sioux, one; Pocahontas, one; and O'Brien, four. The seventh and eighth districts tied for last, or sixth place, having eight delinquent members in each district, as follows: seventh district, Clinton, one; Delaware, one; Jackson, one; Jones, one; Johnson, one; and Cedar, three; eighth district, Des Moines, two; Louisa, two; and Lee, four.

Dues for the current year are now being received. A county not included in the 1936 honor group of one hundred per cent counties was the first to establish a one hundred per cent record for 1937. Congratulations, Shelby County Medical Society! Dues for 1937 are now due. Obey that memorandum today and help your county and district maintain a high membership rating for this year.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. MCCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

Historical Sketch of Medicine in Dubuque County Where Iowa State History First Began

IN FOUR PARTS

HENRY G. LANGWORTHY, M.D., Dubuque, Iowa

PART I

EARLY SETTLEMENT AND PIONEER DAYS

1830-1859

Introduction

In the city and county of Dubuque, Iowa, state history first began. That is a remarkable thing to be able to write, but when one looks out upon the broad expanse of the Mississippi, one of the greatest rivers of the world and an international highway of exploration from the earliest days of America, such a statement of fact is not surprising. The mighty "Father of Waters," to use the original Indian term, and its fertile valley, has been the pawn of empires in the past on several occasions. It explains why the city of Dubuque has seen the four flags of Spain, France, England and the United States wave over her territory. The freedom of navigation of this inland river, cleaving the heart of a continent, was as important to the original thirteen colonies as was the freedom of the seas.

Just how long have the lead mines in the Dubuque area been known and worked by white men? It is an interesting question. As early as 1658 or two hundred and seventy-eight years ago, the old world, through those adventurous traders in the Northwest, Radisson and Grosseilliers, seemed to have vaguely heard of the lead mines of Dubuque. The upper Mississippi itself was first discovered by Marquette and Joliet on June 17, 1673, on the Iowa shore described. On Hennepin's map in 1687 there was imprinted a heavy dot showing the location of lead mines close to the Mississippi river at the location of Dubuque. Nicholas Perrot in 1690 actually carried out mining just below the present city and also established

a trading post across the river on the Illinois shore. La Sueur and his expedition, on the way up the river to the twin cities, stopped at Dubuque in 1700 to investigate the presence of Galena ore. All this, however, was temporary and incidental to exploration and contacts with a strange new race of red men.

Iowa's First White Settlement

It remained for a French-Canadian to establish Iowa's first permanent white settlement. There is no more romantic and interesting tale in the history of America than the dramatic story of Julien Dubuque, miner of the Mines of Spain and founder of Dubuque in 1788. While a young man living in Quebec, Canada, and hearing of rich lead mines somewhere along the upper Mississippi, he determined to brave the perils of the wilderness and seek it out. He finally reached Dubuque and studied the rocks and bluffs about the old Indian village and the crude method of Indian lead mining. With a winsome personality, he was finally able to persuade Chief Peosta, leader of the tribe, to convey to him the exclusive right to mine the region containing the richest lead deposits which was encompassed within a small area of about fourteen square miles. His subsequent marriage to the Indian princess Potosa, daughter of the old chief, was an added influence. With the Indian grant secured, he brought ten white followers to the place, built a crude smelter, grist mill and cabins and proceeded to mine and trade on an extensive scale. Since the country belonged to Spain and because he feared that his Indian concession might not prove an iron-clad ownership, Julien Dubuque next obtained a grant to his mining lands from Baron de Corondelet at

New Orleans, then Governor for Spain in the new country. Seeking to ingratiate himself with the Spanish crown, he tactfully called his mines at Dubuque the "Mines of Spain" to which the name clung. Secure in his possessions on his sizable estate and great log cabin, and mounting a brass cannon a few yards away overlooking the river above the village, he labored faithfully for over twenty years. History relates that he had to practice many wiles of witchcraft at times to hold his leadership over the superstitious natives. He died suddenly from pneumonia on March 24, 1810, and was buried in a leaden coffin, with other dead Indian chiefs about him, on top of the high bluffs overlooking the Mississippi valley just below the city, now called Dubuque's Grave. With his passing, the Indians fearing that the tale of mineral riches might attract other whites burned Dubuque's cabins, drove away his followers and destroyed every vestige of white man's occupancy. For over twenty years they allowed no white men on the land. The country rapidly reverted to wilderness, the Indians became depopulated by savage warfare between their own tribes and even the legend of Dubuque's valuable lead mines became clouded with obscurity and age. Such was the setting of the first white settlement in the state and thus was the seed sown for a later mining town and the beginning of white man's medicine.

A Second Settlement in 1830 and Iowa's First Physician Civil Officer, Dr. Francis Jarret

Late in May, 1830, while mining at Galena, Illinois, the Langworthy brothers, James and Lucius, on the lookout for the opportunity, heard from an Indian and his squaw, that a sudden Indian war had broken out on the other side of the river, resulting in the Fox Indians vacating their village at Cat Fish Creek and leaving the coast of the frontier territory on the western bank of the Mississippi, entirely clear. They immediately swam their horses across the river and once more opened up the old half-forgotten lead mines of Julien Dubuque which soon yielded them great quantities of lead ore. Other miners immediately followed and in a few weeks the colorful, roaring mining camp of old Dubuque again sprang up on its present site as one of the richest lead mine finds in the world. The camp was without law and order, however, and the miners realized that they must have some set of regulations to govern themselves and prevent killings and claim jumping. Accordingly they gathered around an old cottonwood log on the levee bank on June 17, 1830, adopted a set of mining rules and regulations drawn up by James L. Langworthy, and

authorized Dr. Francis Jarret, then present, to issue papers for arbitrating all mining difficulties. It was a truly remarkable document for the middle west and Iowa's first written constitution. Thus we find the first mention of a physician in Dubuque becoming the first civic officer in the state.

Early in July of the same year the Indians returned to their village, discovered the intruders, and attempted to drive them off, but without success. Since the land belonged to the Indians and to prevent much shedding of blood, Zachary Taylor, the commander of the government troops at Prairie Du Chien, ordered the miners to vacate. To enforce his order he sent a detachment of troops under Lieutenant Jefferson Davis and drove the miners to the islands in the middle of the river. Here they spent two hard winters in dugouts watching for a chance to revisit their mines. Fortunately for the whites, the Black Hawk war broke out in 1832, the Indians were badly defeated and their leader, Chief Black Hawk himself, was captured. The result was a new Indian treaty opening up the territory, to be effective June 1, 1833. By this treaty a narrow strip of land fifty miles wide along the western bank of the Mississippi was ceded to the government for settlement. On the morning of that famous date, at the firing of a cannon, crowds of miners again rushed across the river to reclaim old or stake out new mining claims. It was a wild influx, not unlike the later California gold rush or the Klondike stampede. It marked the death blow to Indian survival about Dubuque.

Cholera in the Mining Camp in 1833

With the opening of the land to settlement under the Black Hawk Purchase Treaty, the summer of 1833 dawned rich in promises. Emigration to the mines was large and was composed largely of men of substantial character who came to seek their fortunes in the ground. The rich mines were feverishly worked and yielded large returns. Cabins and huts of all descriptions sprang up like magic, stores were erected, smelting furnaces established and river communications opened. Among the newcomers to arrive in 1833, were three doctors, namely, Drs. Allen Hill, John B. Stoddard and Frederick Andros. It was a fortunate circumstance for the community that these three physicians were among the early settlers, because Asiatic cholera made its first visitation to the camp that summer with a violence only to be measured by the number liable to attack. Faces blanched with fear when the cry of cholera spread through the camp. It was an adversary more terrible than a famine. Scores perished from the violent purging and rapid collapse. Dur-

ing the epidemic all business and mining came to a standstill and the newly, improvised streets were empty, save by those engaged in the work of aiding the sick and burying the dead. Many who had escaped death, fled in haste. This handful of three physicians administered to the sick and dying without a thought for their own safety. According to students of epidemiology, this terrible infectious disease, about which comparatively little was known at the time, after having been endemic in Asia from a remote period, made heavy inroads into Europe early in the eighteenth century. From Great Britain it was brought in immigrant ships to Quebec, beginning particularly in 1832 and 1833, and thence traveled along the lines of traffic up the Great Lakes and finally reached as far west as the military posts and settlements of the upper Mississippi river. This dreaded disease continued to enter various ports of the United States in epidemic form every few years to spread over parts of the country, and it was not until Koch announced the discovery of specific organism in 1884, after finding them in the infected stools and contaminated water, that cholera really ceased to obtain a foot-hold in the United States. Following the epidemic, for a short time in the fall, another and younger physician by the name of Dr. John Stoddard, not related to the first Dr. J. B. Stoddard, joined the settlement hardly yet fully recovered from the fearful ordeal through which it had just passed.

An Early Killing and Lynch Law

Dr. John B. Stoddard, it is said, was not a graduate in medicine, but had served as hospital steward in an Illinois regiment in the Black Hawk War. In 1835, some two years after his arrival in the settlement, he was unfortunate enough to have an argument with a Captain Edward White over the right to the possession of a mining claim. Under the excitement of the quarrel, he shot White with a charge of coarse shot and in three days the wound proved fatal. White died leaving a large family and was buried where he was shot with two rough stones set up to mark the spot. The feeling in the community ran high over this act of violence and the officers of the lynch law very quickly turned out to seize and hang the offender. Having some warning of the purposes of the determined miners, and no doubt with much regret, Dr. Stoddard quickly left the vicinity and made good his escape.

Dr. Frederick Andros, a native of Massachusetts, was hardly thirty years of age when he came to the settlement in 1833. He was a graduate of Brown University in both literary and medical departments. According to his statement years

later, he was really the first registered physician in the place, since the other practitioners had never been regularly licensed. Because of poor health, he removed to Clayton county in the late fall of 1837 to engage largely in farming but kept up his interest in medicine.

Dr. John Hill was known as a cultured gentleman who secured the confidence of his patients and the respect of all. It is supposed that he left the mines a short time after the cessation of the cholera epidemic in which he played a splendid part. His name does not seem to have appeared again in the annals of the settlement.

(To be continued)

ARTHUR LYNN BRYAN, M.D.

1886-1936

An Obituary and an Appreciation

With the death of Dr. A. L. Bryan, on November 12, 1936, there passed from the ranks of the medical profession of Muscatine another of its able practitioners.

Arthur Lynn Bryan was born July 23, 1886, at Egan, South Dakota, the son of Dr. Albert T. and Ella L. Bryan. In 1914 he received his degree of doctor of medicine from the University of Illinois, after which he served an internship at West Side Hospital, in Chicago. He married Mae Trowbridge at Chicago in 1914 and the couple moved to Belle Plaine, Iowa, where he practiced until 1920, when he changed his location to Muscatine, continuing his practice there until the time of his death. He is survived by his wife, two sons, Bradford, sixteen, and Alden, eleven, and one brother, Dr. Allen Waite Bryan, of the Jackson Clinic at Madison, Wisconsin.

Dr. Bryan was a member of Trinity Episcopal Church and of the Elks Lodge of Muscatine. Professionally, he was a member of the Muscatine County Medical Society, the Iowa and Illinois District Medical Society, the Iowa State Medical Society and of the American Medical Association. At one time he served as president of the county medical society and at the time of his death he was the local surgeon of the Chicago, Milwaukee, and St. Paul Railway. Dr. Bryan was a willing worker and was always ready to give his time without stint. His services to his patients were rendered faithfully and well. The Muscatine County Medical Society has lost one of its most faithful and ardent workers.

His passing at the mature and most useful age of life is deemed a definite loss to his family and his profession.

It is recommended that this tribute of regard for Dr. Bryan from the membership of the Muscatine County Medical Society be recorded in its minutes and that a copy be sent to his family, the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY, and the Iowa and Illinois District Medical Society.

Committee:

T. F. Beveridge, M.D.

J. L. Klein, M.D.

B. E. Eversmeyer, M.D.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

A DIABETIC MANUAL—By Edward L. Bortz, M.D., associate professor of medicine, Graduate School of Medicine, University of Pennsylvania. Illustrated. F. A. Davis Company, Philadelphia, 1936.

ADULT EDUCATION—By Lyman Bryson, professor of education, Teachers College, Columbia University, New York. American Book Company, Cincinnati, 1936.

ARTHRITIS AND RHEUMATIC DISEASE—By Maurice F. Lautman, M.D., consultant to the U. S. Public Health Service Clinic, McGraw-Hill Book Company, 330 West 42nd Street, New York, 1936. Price, \$2.00.

AN INTRODUCTION TO MATERIA MEDICA AND PHARMACOLOGY—By Hugh Alister McGuigan, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois, College of Medicine, Chicago. With 71 text illustrations and 18 colored plates. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.

CHEMICAL PROCEDURES FOR CLINICAL LABORATORIES—By Marjorie R. Mattice, A.B., Sc.M., assistant professor of clinical pathology, New York Postgraduate Medical School of Columbia University, New York. Lea and Febiger, Philadelphia, 1936. Price, \$6.50.

FUNDAMENTALS OF HUMAN PHYSIOLOGY—By the late J. J. R. Macleod, M.D., D.Sc., F.R.S., late regius professor of physiology, University of Aberdeen, Scotland, and R. J. Seymour, M.D., professor of physiology, Ohio State University. Fourth edition, C. V. Mosby Company, St. Louis, 1936. Price, \$2.50.

INTERNATIONAL CLINICS, Volume III, Forty-sixth Series—Edited by Louis Hamman, M.D., visiting physician, Johns Hopkins Hospital, Baltimore. J. B. Lippincott Company, Philadelphia and London, 1936.

MICROBIOLOGY AND PATHOLOGY FOR NURSES—By Charles F. Carter, M.D., Director of Carter's Clinical Laboratory, Dallas, Texas. With 138 text illustrations and 14 colored plates. C. V. Mosby Company, St. Louis, 1936. Price, \$3.00.

PRINCIPLES OF CHEMISTRY—By Joseph H. Roe, Ph.D., professor of biochemistry, School of Medicine, George Washington University. Fourth edition. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.

SOCIAL ASPECTS OF THE BANANA INDUSTRY—By Charles David Kepner, Jr., Ph.D., Columbia University Press, New York, 1936.

A TEXTBOOK OF NEURO-ANATOMY—By Albert Kuntz, Ph.D., M.D., professor of micro-anatomy, St. Louis University School of Medicine, St. Louis. Second edition enlarged and revised. Lea & Febiger, Philadelphia, 1936. Price, \$6.00.

A TEXTBOOK OF PATHOLOGY—By W. G. MacCallum, professor of pathology and bacteriology, Johns Hopkins University, Baltimore. Sixth edition, 1277 pages with 697 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$10.00.

TISSUE IMMUNITY—By Reuben L. Kahn, M.S., D.Sc., University of Michigan, Ann Arbor, Michigan. Charles C. Thomas, Springfield, Illinois, 1936. Price, \$7.50.

BOOK REVIEWS

PRINCIPLES OF CHEMISTRY

By Joseph H. Roe, Ph.D., professor of biochemistry, School of Medicine, George Washington University. Fourth Edition. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.

This volume constitutes an excellent textbook of chemistry for schools of nursing, incorporating the fundamental principles of inorganic, organic and physiologic chemistry. New chapters on the vitamins, nutrition and the internal secretions, convey the latest ideas on these subjects. One third of the volume is devoted to a laboratory manual of simple chemical experiments.

D. H. K.

ism and the treatment of pituitary insufficiency and pituitary hyperfunction. One is impressed by the thorough investigation of the patient and the conservative attitude toward endocrine therapy. Hempelman presents an excellent article on encephalitis and describes in detail the symptoms, diagnosis and treatment of the St. Louis type of 1933. The treatment of bronchial asthma by Eyerman is a valuable contribution to the volume.

Many other articles of merit in various fields of medicine make this volume of practical value to the physician in the analysis and treatment of the patient.

D. H. K.

MODERN UROLOGY

Edited by Hugh Cabot, M.D., Professor of Surgery, The Mayo Foundation, Graduate School of the University of Minnesota. Third Edition, thoroughly revised. Two octavo volumes. Lea & Febiger, Philadelphia, 1936. Price, \$20.00.

Now in its third edition, this encyclopedic work represents the most modern thought of outstanding American contributors in this field of practice. Recent developments along this line of research caused such an extensive rewriting of the work that in its present form it is practically a new treatise. Its contributors include outstanding diagnosticians, surgeons, and pathologists, a group so distinguished as to assure the authority and usefulness of this work.

In Volume I are considered general diseases of the external genitals, the prostate gland, and the

THE MEDICAL CLINICS OF NORTH AMERICA

Volume xx, No. 2. Octavo of 350 pages with 24 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, paper \$12.00; cloth \$16.00.

This volume of The Medical Clinics of North America is the St. Louis number and has been presented by members of the staff of Washington University. The content is of interest to the internist, the general practitioner and the pediatrician. It is interesting reading, the material is well organized and the discussions are illustrated by numerous case histories.

An endocrine symposium by David P. Barr and associates, includes case presentations and discussions of borderline endocrine disturbances, endocrine infantilism, endocrine obesity, hyperinsulin-

seminal vesicles. In Volume II, the bladder, the ureter, the kidney, and radiation therapy of tumors are considered. The author has made generous use of the visual approach to clearness in the use of 920 engravings and twenty-one plates, a feature which adds greater value to this already meritorious work. Modern Urology is a commendable guide to every phase of diagnosis and treatment in this field and reflects the modern, yet conservative, therapy as practiced in America's leading teaching institutions and clinics.

ENCYCLOPAEDIA OF SEXUAL KNOWLEDGE

By A. Costler, M.D., and A. Willy, M.D.
Eugenics Publishing Company, New York,
New York, 1936.

With our emancipation from the prudishness which prevented the dissemination of information concerning that vital and primitive function of sex, many discussions of this subject have appeared in the American book market. Like most of other human endeavors, some of these are good and others definitely uninspired. This volume originally published in the French language has been prepared for the adult student and one who has insight into these problems. While the outline of subjects follows closely that found in other treatises, the treatment of the individual discussion is more complete, more painstaking and more authoritative than is commonly found.

Book I deals with sexuality in children through the age of puberty to adolescence. Book II presents the various aspects of sexual intercourse. Book III discusses the problems of procreation, including the psychology of pregnancy and motherhood. Book IV presents the imperfections of love, critically considering impotency in man and frigidity in woman, and also reviewing modern scientific works in the problem of rejuvenation. Books V and VI deal with sexual aberration and venereal disease.

Because of its encyclopedic nature, a very comprehensive index is provided adapting the work to reference needs.

INTERNATIONAL CLINICS

Volume III, Forty-sixth series. Edited by Louis J. Hamman, M.D., visiting physician, Johns Hopkins Hospital, Baltimore. J. B. Lippincott Company, Philadelphia and London, 1936.

This volume contains seventeen monographs and critical discussions of pertinent subjects in medicine and surgery by competent authorities.

For the surgeon one would recommend particularly an excellent paper on the embryology, diagnosis and treatment of pilonidal sinus by Mims Gage. The internist will be interested in a paper by Held and Goldbloom entitled "Adenopathy," which is a discussion of the differential diagnosis between Hodgkin's disease, lymphosarcoma and aleukemic lymph-

adenosis. An article on suppuration of the petrous pyramid of the temporal bone by John W. Baylor will engage the attention of the otologist.

The careful reading of volumes such as this cannot fail to sharpen the diagnostic acumen, to stimulate analytical thinking and to improve rational therapy.

D. H. K.

A TEXTBOOK OF NEURO-ANATOMY

By Albert Kuntz, Ph.D., M.D., professor of micro-anatomy, St. Louis University School of Medicine, St. Louis. Second edition, enlarged and revised. Lea & Febiger, Philadelphia, 1936. Price, \$6.00.

This textbook is characteristic of the thoroughness of the author's previous contributions on the autonomic nervous system. The book discusses evolution and comparative anatomy of the nervous system in a lucid manner, after which the embryology of the neural tube and general topography of the central nervous system is considered. Following this there is a complete discussion of the various phases of the anatomy of the central nervous system. This is well illustrated by drawings and is of distinct advantage to the student or practitioner whose interest lies in the structure of the brain and spinal cord. There is also a thorough review of the autonomic nervous system, based on the author's previous edition on this subject. The latter portion of the text is well illustrated by clinical cases with adequate drawings, indicating lesions in the nervous system.

W. D. A.

ABORTION, SPONTANEOUS AND INDUCED

By Frederick J. Taussig, M.D., professor of clinical obstetrics and clinical gynecology, Washington University School of Medicine, St. Louis. C. V. Mosby Company, St. Louis, 1936. Price, \$7.50.

Dr. Frederick J. Taussig, the author, has prepared a book which covers fully the medical aspects of this subject. He presents a very clear picture of the etiology, diagnosis, pathology, mechanism and treatment of this condition and reviews in a comprehensive manner the complications and sequelae. The book contains a chapter on preventive measures and sterilization. In addition to this, the author has furnished valuable information for the obstetrician, the gynecologist, and the general practitioner, dealing with the social and legal aspects of this problem and he has furnished the legal statutes of the different states dealing with the subject of abortions.

Dr. Taussig is an authority on this subject and has presented in a very concise and readable form the latest information, some of which has never before appeared in book form, available to the physician for his daily use. The book is one which should appeal to every obstetrician and gynecologist. The general practitioner will find it a very instructive and valuable reference book.

W. O. P.

The JOURNAL

of the

Iowa State Medical Society

VOL. XXVII

DES MOINES, FEBRUARY, 1937

No. 2

BREAST TUMORS AND SURGICAL CLINIC*

W. WAYNE BABCOCK, M.D., Philadelphia, Pa.

Thanks to Dr. Fordyce and members of your committee, we have a number of patients to illustrate diseases of the breast.

The first is a young woman twenty-two years of age, who comes with so-called virginal hypertrophy of the breast or, as it was formerly called, myxoma or fibroma. The enlargement usually begins about the time of, or soon after, puberty, and it is characterized by an enormous overgrowth of fibro-connective or myxomatous tissue, but with scant epithelial hyperplasia; the breasts hang down over the abdomen and sometimes the thighs, forming a very troublesome and disfiguring condition. Dr. Fordyce reports that this girl had menstrual irregularity, and a tendency toward diminished menstruation or amenorrhea about the time the enlargement began, which is in accord with our belief that the condition is due to ovarian dysfunction. For this reason we are inclined to treat these patients early with injections of ovarian residue or theelin. However, we would not expect endocrine therapy to benefit this patient greatly. The breasts hung down upon the thighs, there was difficulty in retaining them by a brassiere, and the patient complained of the drag upon her shoulders. Dr. Fordyce, therefore, liberated the skin and took out a large section of the lower part of the mammary glands with an overlying section of skin, and then transplanted the nipple and the areola through new upper openings. In this type of operation, with such movable, stretchable tissues it is difficult to transplant artistically the nipples. Therefore, before the operation one takes measurements so that the nipples may be properly placed and in a line as nearly as possible, and Dr. Fordyce has done this very well. At the same time, the removal of large portions of the breasts may so reduce the blood supply that the remaining portions may necrose. As a result, I have seen marked

disfigurement, especially if the upper medial attachments of the breast are divided. It may be wise, therefore, if the resection is to be extensive, to do the operation in stages. One may first transplant the nipples and areola, only separating the skin from the anterior portion of the glands. Later, with the skin attached, the mammae are raised and resected inferiorly and laterally, and the medial segment is rotated laterally and sutured to overcome the gap. Sometimes, in order to bring the breast into a higher and more prominent position, one can turn up the flap of skin that runs on the under surface of the breast, and so suture it to the ribs or intercostal muscles, as to elevate, support and contour the organ. In certain cases this is preferable to excising the lower ellipse of skin. In this case, Dr. Fordyce is to be congratulated on the result obtained in a difficult case, and even further improvement is to be expected as healing progresses.

The second patient, a matron sixty-three years of age, noticed a lump in the right breast about three years ago. This grew very slowly, until the past year when it became more prominent, and involved the skin, so that now she has a firm red mass that projects from the lateral hemisphere. The skin has not broken down although ulceration is imminent. The general health has been good. Twelve years ago the patient received a blow over this breast, which was followed by only a few days of soreness. That is common history because nearly every woman has had more or less traumatism to the mammary gland. We are skeptical as to whether cancer can be initiated by a single traumatism. Surely when a tumor begins a few days after an injury, it has not been produced by that injury. Irritants known to be followed by the development of cancer must as a rule continue to act for eight months or more before the tumor develops, and radio-active substances may bombard the tissues for years before the tumor appears. Thus, when, as occasionally happens, especially with sarcoma, the growth appears a few days or a month after the injury, we assume that the tumor

* Presented before the Eighty-fifth Annual Session, Iowa State Medical Society, Des Moines, April 29 and 30, and May 1, 1936.

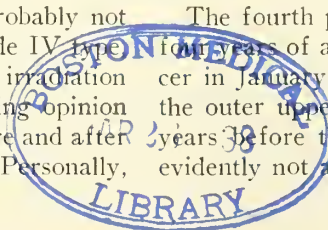
was already present and that the injury attracted attention to the part and perhaps accentuated the growth. The present red mass about the size of two fused cherries, lies in the upper outer quadrant of the breast, a fairly common situation for cancer. We sometimes forget this tail-like, triangular projection of the breast toward the axilla, and think that it belongs to the axilla and not the mammary gland. We thus fail to recognize such an outlying mass as an epitelial-bearing tissue. In this case, it gives the patient discomfort. Although attached to the skin it is freely movable on the underlying muscle and chest wall. Note that a growth infiltrating the pectoral muscle may be moved at right angles to, but not in, the line with the muscular fibers. Palpation of the lymphatic glands at the apex and sides of the axilla reveals no enlargement.

Here, then, we have a primary carcinoma slowly growing from the axillary projection of the mammary gland into the skin. It shows a very limited lymphatic spread, so at the end of three years we can make out no axillary enlargement. The x-ray has revealed no secondary involvement in the chest. It is evident that the skin will soon break down with persistent ulceration. The question is, what treatment to advise. This depends, I think, in a large degree upon the age. If this patient were seventy-three years of age and fairly comfortable, I would say to let the growth alone except for protection, and to give the patient such medical treatment as I will later mention. However, this patient is sixty-three years of age, is having discomfort, and the growth has been present for three years. There has been sufficient time for metastatic spread, which however, is not yet evident, but a cure from any form of treatment is not to be expected. It is desirable to remove from the patient's mind and body an objectionable growth that will soon ulcerate. Therefore, I would advise mastectomy, or if the patient should object to the operation, then intensive irradiation. By removing the growth the exact type of tumor and grade of malignancy may be ascertained, and the surgeon and radiologist will have a scientific basis for further treatment. For example, if the tumor is a well differentiated grade I, there is a fair chance that it will not recur after radical mastectomy, or if it does recur it will probably be radio-resistant; if the tumor proves to be the rarer comedo carcinoma, the growth will probably not recur; while if it is found to be a grade IV type recurrence is almost inevitable, but irradiation should be of value. There is conflicting opinion as to the desirability of irradiation before and after the removal of a cancer of the breast. Personally,

I prefer to remove the growth and to watch the patient with the aid of x-ray examinations of the chest and bones, but without pre- or postoperative irradiation until a secondary lesion is demonstrated. Most cancers of the breast in elderly persons are radio-resistant. Metastasis is to be expected after three years except with certain types of cancer. The secondary growth may have started in the spine, femur, or brain, or elsewhere, but we cannot irradiate the entire body without doing the patient great harm. What is the sense of advising this treatment until we know when, where and how to direct it? Fortunately, we have with us Dr. Christie who has some very well developed and perhaps contrary opinions on the subject, which he may express to you.

The third patient is fortunate in having a slowly growing type of cancer. I would remind you that, clouding all our opinions as to the results of operation and of irradiation or any other treatment, there is the fact that cancers of the breast vary so greatly in malignant tendencies. For example, I have known in one of the old ladies' homes in Philadelphia, twelve elderly women, every one of whom had had a scirrhus cancer of the breast for ten years or more, yet none of them had received any treatment. One old woman had had a scirrhus cancer of the breast for twenty-two years. There was a shallow ulcer about the size of a twenty-five cent piece. The only treatment used was a bit of greased rag. She was approaching eighty years of age. What should we do? Nothing. She was comfortable. If we excised or irradiated the tumor we would probably do more harm than good. I have seen a number of septuagenarians with cancer of the breast of seven or eight years' duration, in fair comfort, who as soon as the cancer was disturbed developed a spreading, devastating process. Very few cancers of the breast are cured by x-ray or radium therapy, although many show some degree of palliation. Few recurrent growths are controlled by irradiation for five years. Too many patients with hopeless malignancies are terribly and unnecessarily punished in their last months of life by harmful and useless x-ray or radium treatment. Therefore, we advise very conservative treatment for the slow and atrophic forms of scirrhus growth. However, early growths in patients over seventy years of age may disappear under irradiation.

The fourth patient is a married woman, thirty-four years of age, who had a mastectomy for cancer in January, 1934. She also had the tumor in the outer upper quadrant of the breast for three years before the mastectomy was done. It was evidently not a radical or complete operation, be-



cause here we find remains of the pectoral muscles which spread down to the ribs. Most of us feel that it is impossible to do a complete removal of the lymphatic glands along the axillary vessels, in the axilla, and in the muscular sheaths, unless both pectoral muscles are removed. Previously she also had a thyroidectomy. Her general condi-

have been very bad. Operations for cancer of the breast in individuals under thirty years of age so uniformly fail that we prefer to advise irradiation, the results of which are unfortunately but little better. I have seen but one patient with a proved case of carcinoma of the breast occurring under thirty years of age which was cured by irradiation; none which was cured by operation. We have sought the opinion of Dr. Christie on this patient, and he agrees that neither x-ray treatment nor operation would be of any advantage. However, the patient should be kept under observation and injections of alien proteins may have some slight value.

The next patient is a housewife, who has been good enough to come before you. She is forty-nine years of age, and was first seen on December 4, 1935, when she had a lump in the left breast which had been there about four months. It was painful, and one should remember that cancers of the breast in the curable stage are rarely painful. We must impress upon the laity the fact that early malignancy in nearly any part of the body is free from pain, the only exceptions being those few regions where sensory nerves are compressed or invaded. Pain and cachexia indicate a late and terminal stage and usually mean that the condition is hopeless. I was impressed by the wisdom of a patient in my office who said, "I am having a little bloody discharge from the rectum and, as I have no pain, I think it must be a cancer." He showed more sense than many of us and his diagnosis was correct. When this patient reported to Dr. Fordyce she was somewhat overweight, and had a tumor the size of a lemon in the upper outer quadrant of the left breast. She has borne a number of children. Her menopause occurred four years ago, and she has gained about forty pounds since, so she was at her maximum weight at the time this lump appeared. Some years ago an attempt was made to correlate increase of weight with the development of cancer. Of course, a person usually either gains weight or loses weight at middle life. Probably, therefore, it is coincidental that these growths often develop when the woman reaches her maximum weight. Dr. Fordyce performed a radical operation for the cancer, removing a considerable portion of skin, on December 6, 1935. The patient has been negligent and this is the first time she has appeared for re-examination. We now find a firm, craggy, pea-sized lump in the skin close to the scar, which can be moved upon the underlying chest wall, showing it has not become fixed. An examination for enlarged axillary, supraclavicular and postscapular glands is negative. Here is a

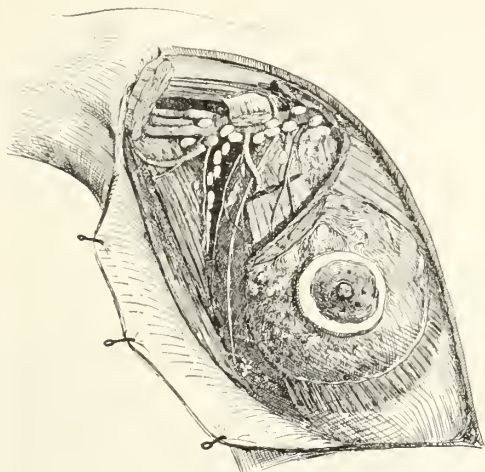


Fig. 1. For exposure and removal of infected lymph nodes, it is essential to remove the pectoralis major and minor muscles.

tion is at present good, but for several months she has been having a suggestive distress in the chest. As I look at the skin adjacent to the scar, I notice faint, reddish blotches which are seen better with oblique illumination. These little blotches, about the size of one's finger nail, are dusky red and so faint they were not noticed on first observation. They are very important, since they are diagnostic of a cancerous invasion of the lymphatic vessels of the skin. They may subsequently turn into more violet or bluish or purplish macules with papular formation. When they develop near the operative scar they indicate that the surgeon removed too little skin or that the operation was too long delayed. A roentgen study has been made of the chest, and on the film you will note many radiopaque areas about the size of cherries or smaller, in both lungs. While no nodules are felt in the axilla or skin, the patient shows a widespread cancerous involvement of at least the lungs and skin. Resistance to cancer usually comes with age. This patient was only thirty-one years of age when the tumor was first noticed. Rarely does any treatment avail for cancer developing under thirty-five years of age, so that even if she had had an operation of the most radical type immediately after the lump was first discovered, which we would have strongly urged, and even if intensive x-ray treatment had been used, the prognosis would

local recurrence in the skin which requires treatment. We should determine if it is radiosensitive, and if it is not, and distant nodules do not develop in the meantime, we should excise it.

The fifth patient is a married woman, forty-two years of age. Her medical history is irrelevant. She is the mother of five children, whose ages range between five and fourteen. All were breast-fed. The breasts were never inflamed or painful. This is interesting, because it is the unused breast which is more prone to be the seat of cancer than the breast which is used. In the late summer of 1931 she was struck in the right breast with a hoe handle. The blow was so severe as to cause pain, but no hematoma or ecchymosis. Three or four months later she noticed a soft, painless lump in this breast. I suppose she connected the two things. Possibly the other breast has been bruised at various times, but no lump has developed. Two years later, or on January 1, 1934, the right breast was amputated. On February 17 of the same year, the left breast also became involved, and was removed. This is an example of how the lymphatic vessels of one breast communicate with those of the opposite side. The wound on the right side did not heal well. Ten days after the operation skin was taken from the thigh and grafted on to the breast. A second graft was transplanted on February 22. From June 27 to July 10, 1934, she received x-ray treatment. She is rather thin, has a somewhat yellowish color, bordering on brown. There is some pigmentation over the chest, with mottling and telangiectatic patches, where x-ray was given, in the left supraclavicular region. Immediately demanding one's attention, however, is the presence of firm nodules from a few millimeters to two centimeters in diameter scattered over the skin of the chest and shoulder. The larger ones show some reddish pigmentation. This nodular eruption was first noticed last month. Her hemoglobin is 75 per cent, erythrocytes 3,800,000, leukocytes 6,800. A roentgenogram made on April 27, shows distinct evidence of some condition in the bone. There is loss of opacity and irregular areas of radiolucency in several ribs, as well as small areas of increased density in the lung fields. Here we have an example of a generalized carcinomatosis, a condition which is not helped by operation or irradiation. The x-ray will add to her discomfort, damage vital organs, and accomplish nothing. There are certain palliative treatments which I think may sometimes be used for such a patient, and I will mention them later.

It is interesting to correlate with lantern slides some of the known facts relating to malignancy

of the breast, especially carcinoma. During recent years there has apparently been a progressive increase in the incidence of cancer. We are seeing more cases of cancer of the breast than formerly and, I think, very many more cases of cancer of the large bowel. Cancer of the breast represents about twelve per cent of all cancers, and about eight per cent of all deaths from carcinoma are due to carcinoma of the breast. The disease, like all malignancies of the epithelial type, predominates in middle life; but rarely we find it in girls or in women under twenty years of age. A very virulent form, mastitis carcinomatosa, develops like an acute inflammatory condition, in young people especially during or soon after pregnancy. This cancer grows rapidly, but temporarily improves and rarely is cured under irradiation. However, the most radical operation is followed by early re-



Fig. 2. Comedo carcinoma of the right breast. The mass consisted of a large cyst surrounded by a rind of carcinomatous tissue about one centimeter thick.

currence, so we do not advise operation for cancer of this type. In old people, after the menopause, there is a tendency for a slower, less active type of growth, and also a type of growth that is less radiosensitive. These growths that develop slowly, that are well differentiated, and that have well developed epithelial cells, usually do not respond well to x-ray or radium therapy. From an etiologic viewpoint, about two per cent are found in patients under thirty years of age and about 0.8 per cent in girls under twenty years of age. Ninety-nine per cent of all cancers of the breast occur in women. The occasional cases that occur in men usually develop in or close to the nipple.

It is interesting to note that the degree of civilization seems to bear some relationship to the incidence of cancer of the breast. The incidence rate is twice as high in the white as in the colored race; it occurs less frequently in the Japanese and aborigines than in the civilized races; and apparently is more common in persons born in the United States

than in those who come to us from other countries. In regard to heredity, we think the soil is inherited, but we do not believe that the cancer cell is transmitted. In fifteen per cent or more of the patients there is a history of cancer in the family. Apparently the susceptibility is transmitted more from the mother than the father.



Fig. 3. Ulcerating carcinoma of the left breast in a syphilitic woman.

The early striking sign of the cancer is a depression of the overlying skin. We usually first diagnose cancer of the breast by the eye. With oblique illumination the skin is seen to be flattened over the growth. There is only one other thing that may be confused with the flattening of the skin from mammary cancer and that is the rare traumatic fat necrosis. A blow results in a hematoma, some degenerating of the fat and then flattening of the overlying skin. This usually occurs in an obese, middle-aged person, and you may detect a rather superficial underlying lump with fixation to the skin. If there is any question, the lump should promptly be explored with the patient prepared for an immediate mastectomy. With the scirrhous tumor the nipple tends to tilt toward the growth. This does not invariably occur; in the second patient presented today, there was no change in the nipple. Later the nipple is usually retracted and umbilicated. With the more rapidly growing encephaloid or medullary cancer, the skin and nipple are elevated and usually not retracted while the tumor is more circumscribed or even encapsulated.

In five to fifteen per cent of the patients there is an antecedent history of injury. This injury, to have an etiologic effect, should have occurred at least eight months before the growth was noticed. Chronic cystic mastitis with the globular lumps that are so common, as well as the more peripheral Schimmelbusch's disease, is probably due to ovarian dysfunction, a change occasioned, as Lewis and Geschickter have pointed out, by the amount of estrin or progestin thrown into the body, and ap-

parently has no relationship to cancer. Yet many breasts have been sacrificed for these benign conditions. The thin fluid cysts rarely refill after a simple aspiration. Ulceration, abscesses, scars, tuberculosis, benign tumors, except possibly the intracanalicular fibro-adenoma, also have no great causal influence. It is the unused breast, as I said before, which is more frequently involved; that is, that of single, sterile women, or those of low fecundity. Paget's disease of the nipple is usually associated with a duct cancer of the breast, yet I have seen one case in which the patient had Paget's disease for thirteen years without malignant change. Characteristic of Paget's disease is the vivid red granulating area with clear sticky secretion, the loss of the nipple, and the underlying lump due to the development of cancer. There is a tendency for the epithelium to develop over the ulcer and then to melt down. The ulcer resists all treatment except possibly irradiation.

As to symptoms, let me again remind you that cancer is not a painful disease in the early stages. A slight pricking or tingling sensation, however, is common. The tumor is usually hard and irregular or, as we say, craggy. With encephaloid, colloid or adenocarcinoma it may be softer, cystic, or more circumscribed, as most sarcomas are circumscribed and encapsulated. Sometimes we have the idea that all malignant tumors are infiltrating. This is not true with a rapidly growing encephaloid carcinoma or sarcoma, which usually have a distinct capsule. Mastitis carcinoma is diffuse, ill defined, and the breast is so red and hot that an incision is often made in the belief that pus is present. In palpating the breast for cancer do not use the thumb and the finger. Palpate by shifting the flat hand over the gland so that the cancer is compressed against the underlying chest wall. The flat hand examination best reveals a small scirrhous cancer; on the other hand, for finding small cystic and adenomatous growths, the thumb and finger palpation is more useful. We can tell when the tumor has involved the muscle by the fact that it cannot be moved along the fibers of the muscle. When the cancer becomes attached to the chest wall, it becomes quite immovable. Such complete fixation usually also means that the patient has passed the stage of operative eradicability. A discharge from the nipple, which should always be carefully considered, does not necessarily indicate malignancy. A serous discharge is not significant and occurs in three per cent of the benign tumors. From a minute duct papilloma this fluid is clear or turbid, odorless, and often leaves a yellow stain on the garments. A watery fluid having an offensive odor is less common and more suggestive of cancer. A bloody discharge from the nipple in

seventy per cent of the cases is due to some benign cause, especially a small papilloma in a dilated duct under the nipple or areola. When the papilloma has been removed the patient is cured, but careful palpation is necessary to locate and enter the dilated duct. Bloody discharge from the nipple is rare in cancer and, as a rule, a relatively unimportant sign of the disease.

Axillary lymphadenopathy is usually the first evidence of the dissemination of a cancer of the breast. The glands are enlarged, hard, irregular or craggy, and if these symptoms are present, there is three times the chance of recurrence after operation. In twenty-five per cent, however, non-palpable nodes show malignant invasion. In thirty-three per cent, enlarged nodes, oval or rounded and smooth, show no malignant invasion. It should also be remembered that enlarged nodes are common in benign chronic mastitis or masoplasia. Benign nodes are smooth and elastic, without the irregular, craggy feeling which is present in malignant ones. When the gland or tumor has been cut into, if the cut surface is found to be flat, cupped, or concave, it is almost surely a scirrhus carcinoma. The surface, grayish and mottled, resembles that of a cut Kieffer pear. The cut surface of a benign tumor projects or is convex. The scirrhus carcinoma has irregular radiating margins, no capsule and often an admixture with fat. The naked-eye appearance is so characteristic with a well developed scirrhus carcinoma that we consider it as reliable as a microscopic section. If the pathologist disagrees, he can make additional sections. There are some other special diagnostic signs or tests. Transillumination is of limited value. It distinguishes opaque from translucent solid and fluid areas. By means of the x-ray one may also determine radiolucency and feathery or clear cut outlines of lumps. There are some tests for malignancy, like that of Dr. Gruskin's skin test, that seem to have some value.

As a rule, however, one should depend upon a careful clinical examination and upon the biopsy, and, if there is any doubt as to malignancy, the biopsy should precede the removal of the breast; while the patient is prepared to undergo an immediate amputation if such becomes necessary. If the biopsy shows the growth to be malignant one should immediately put gauze into the wound with ten per cent of zinc chlorhydrate or tincture of iodine, sew up the wound, resterilize, change gloves, gowns and drapes, and proceed to do a radical amputation. It should be emphasized that a biopsy is only as dependable as the pathologist who makes the examination. The pathologist should be familiar with the histologic changes which occur in the

breast during menstruation and early pregnancy. At such times there is a tremendous epithelial hypertrophy which, in many cases, looks very much like malignancy. As a result many breasts have been unnecessarily removed. Much has been written upon this phase by Joseph McFarland and others. The gross appearance during menstruation or pregnancy is less deceiving than the microscopic view. In any case it is most valuable for the pathologist to know the date of the patient's last menstruation.

A lump in the breast should be considered as malignant until proved benign. Traumatic fat ne-



Fig. 4. Bilateral Krukenberg tumors of the breasts, associated with corresponding ovarian tumors and ascites.

crosis is rare. Acute mastitis is mimicked by mastitis carcinomatosa, the most malignant form of cancer. Chronic cystic mastitis is characterized by tense globular tumors containing thin fluid which usually does not recur after aspiration. Such patients may be cured in your office in five minutes with a hypodermic syringe, yet many have been subjected to amputation. Of the chronic granulomas, syphilitic gummata, tuberculosis, and actinomycosis should be considered with other conditions leading to chronic abscesses, ulceration and fistula formation.

The signs of advanced and ineradicable cancer are: first, macular, papular or ulcerative malig-

nant lesions of the skin, and second, "pig-skin" or "orange-rind skin." The faint, reddish macules we saw in one patient this morning exemplify the condition. These eruptions indicate that while parts of the cancer can be cut out, all cannot be extirpated by operation.

This colored woman (Fig. 4) entered our hospital to have enormous breasts removed; they weighed forty-seven and forty-five pounds respectively. However, she was weak and had abdominal ascites and an abdominal tumor, so that no operation was done. An autopsy showed that she had the rare condition of Krukenberg tumors, a little tumor of the stomach, secondary bilateral tumors of the ovaries, with ascites and these enormous Krukenberg tumors of both breasts, usually a hopeless condition, and the treatment therefore is symptomatic. Medullary carcinomas, with great massive growths and involvement of the axillary glands, should be treated largely by irradiation. They can rarely be treated successfully by operation.

In conclusion, I wish to show you a short moving picture in color illustrating hypertrophy of the breasts as a result of ovarian tumors. The little girl, three years of age (Fig. 5), has grown very rapidly so that she is now about the size of a girl six years of age, and very strong and robust. She had much hypertrophy of the breast and to some degree, of her generative organs, producing a condition suggesting virilism from a cortical tumor of the adrenal gland. There is a well marked growth of hair on the pubes, the breasts have large areolae, and large veins. The clitoris is rather large and the external genital organs are unusually well developed for a girl of this age.

This close relation of hyperplasia in the breast to ovarian function has an important clinical application. Abolition of ovarian function by irradiation or operation may retard or arrest the growth of a carcinoma of the breast, and it should be considered as an important part of the treatment if the patient has not passed the menopause. In certain cases the x-ray is more effective than when applied directly to the tumor. For the patient with hopelessly advanced disease, we advise fresh air, sunshine and out-of-door life as long as possible. In perhaps 29 per cent a measure of relief is obtained from the injection of alien proteins. Following Bloodgood we use undiluted old tuberculin beginning with one half minim in one or two cubic centimeters of salt solution, injected into the deltoid, doubling the dose every four to eight days until a sharp febrile or local reaction is obtained. For such a reaction many patients require fifteen to thirty minims. The injections are then continued with the dose found to produce a mild reaction.

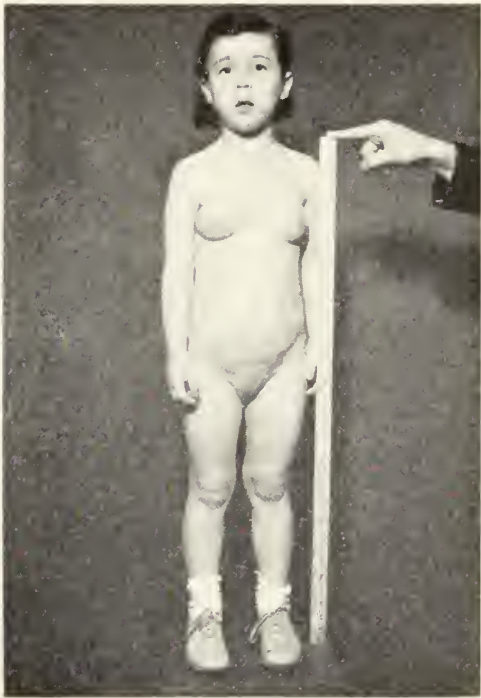


Fig. 5. Hypertrophy of the breast, general overgrowth and premature appearance of pubic hair in a girl of four years with small granulosa cell tumors of the ovaries.

For pain, acetylsalicylic acid or intravenous injections of calcium gluconate, are used, reserving the barbiturates, morphine and its derivatives, alcoholic injection, or sensory nerves and chordotomy for the period when other measures fail. For odorous ulceration permanganate washes and drying powders, especially of thymol iodide, are valuable. Above all, the patient should not be dismissed because she has advanced disease. Her last days should be made as comfortable as possible. Sometimes these patients are forced to seek the services of avaricious charlatans, because reputable physicians neglect to give them the necessary attention.

TUMORS OF THE POSTERIOR CRANIAL FOSSA*

A review of all cases of infratentorial intracranial tumors admitted to the State University Hospitals from July 1, 1934, to June 30, 1935.

A. EARL WALKER, M. D., Iowa City

Tumors of the Posterior Cranial Fossa

Between July 1, 1934, and June 30, 1935, nineteen patients suffering from brain tumors located in the posterior cranial fossa were admitted to the

*From the Department of Surgery, State University of Iowa, College of Medicine.

neurosurgical service at the State University of Iowa. An analysis of this group has been made since we feel that these cases represent a fair cross section of all tumors occurring in the posterior fossa.

Of the nineteen cases only four occurred in females. This preponderance of males is more than that usually found, the ratio in most series being two to one in favor of males. The age incidence in this group is the same as that seen in much larger series. Table I shows the incidence in decades. It will be noted that tumors of glial origin occur almost entirely in children.

TABLE I
AGE INCIDENCE

Age	1-10	11-20	21-30	31-40	41-50	51-60
All tumors	8	3	3	2	2	1
Gliomas	8	3	1	0	1	0

The group may be further classified pathologically.

Gliomas	
Astrocytomas	6
Medulloblastomas	3
Ependymomas	1
Gliomas of the pons.....	3
Acoustic neurinomas	2
Cerebellopontine angle cysts.....	1
Sarcomas (primary)	1
Metastatic tumors	2

It has been found that the different pathologic types of intracranial neoplasm have a predilection for certain anatomic situations. Since the clinical course of a brain tumor is determined by its biologic properties as well as its location within the cranial cavity, it is well to study the signs and symptoms of brain tumors in relation to the pathology of the neoplasm, for then we are able to correlate the clinical with the anatomic and pathologic findings.

GLIOMAS

Astrocytomas

This tumor is the most common type of neoplasm found in the posterior fossa in children. The clinical history in many instances is so similar that one may speak of a typical history. The following case illustrates the usual anamnesis.

Case 1. C. H. (K 1,423), a school boy, twelve years of age, was admitted to the neurosurgical service October 10, 1934, with the complaints of headache and vomiting spells of many years' duration, a tendency for one year to drag the right foot, unsteadiness for more than year when walking, and diplopia for six months. The mother, from whom the history was obtained, stated that since three years of age the patient had suffered from vomiting spells which recently were much more severe and associated with severe occipital headache. Many of these attacks occurred early in the morning and the headaches were relieved after vomiting. She had

noticed for some time that he had an ungainly gait, but not until after an attack of "flu" a year previously had she observed that he dragged the right foot, stubbing his toe. He had no tendency to fall to either side. Except for one sister who is being treated at Oakdale for pulmonary tuberculosis and the father who suffered from pernicious anemia and died at fifty-four years of age, the family history was negative.

The patient was a fairly well nourished boy of about his stated age who appeared to be in no acute distress. He was bright and cooperative. The general physical examination was essentially negative except for the neurologic findings. His vision and visual fields were normal, although both discs were elevated three diopters, and the retinal veins were dilated and tortuous. External ocular movements were full, but there was a fine horizontal nystagmus on looking to either the right or the left. The strength in all muscle groups was good, and there were no localized atrophies. On finger to nose test there was a definite ataxia on the right, and heel to knee tests were poorly performed on both sides. There was a decreased resistance to passive movements of the limbs. Rapidly alternating movements were impaired in both the right and left arms, but more so on the right side. All tendon reflexes were sluggish, but both plantar responses were extensor in nature. The patient walked unsteadily on a wide base, with a tendency to fall to the right. He was unable to stand in the Romberg position with the eyes open or closed. His skull presented no abnormalities to palpation, percussion, or auscultation, although there was some suboccipital tenderness on pressure. No cracked pot resonance could be elicited. Roentgenograms of the skull showed a marked convolutional atrophy, and decalcification of the posterior clinoids, but no evidence of intracranial calcification.

A diagnosis was made of an astrocytoma, probably cystic, of the right cerebellar hemisphere, and the posterior fossa was explored. The occipital bone was only a few millimeters in thickness and was easily rongeured away. The dura was incised transversely, exposing the cerebellar hemispheres. The folia of the right cerebellar hemisphere were flattened and yellow, while those on the left side appeared normal. A brain puncture needle inserted in this region encountered a cyst at a depth of one centimeter, but the fluid was too viscid to flow through the needle. An incision was then carried through the cortex of the right cerebellar hemisphere down to the cyst. This had a smooth yellow lining and contained forty to fifty cubic centimeters of spontaneously coagulating yellow fluid. Several smaller cysts communicated with it and fibrous trabeculae passed from one to the other. On the anterior and medial part of the right cerebellar hemisphere was a large sausage shaped tumor surrounded on three sides by cysts. After removal it measured four by 3.2 centimeters, and weighed sixteen grams. After hemostasis had been secured, the wound was closed in anatomic layers without

drainage. The patient had a very stormy course with a hyperthermia of 103 to 104 degrees for three weeks. He developed a slough above the operative incision and this did not entirely heal for several months.

When last seen six months after the operation, the patient had no complaints. His operative wound was well healed. He had had no vomiting spells or headaches. His gait was still somewhat unsteady but improving. The fundi showed no abnormalities although there was still a marked horizontal nystagmus on looking to the left. There was still decreased resistance to passive movements of the extremities, although the ataxia on finger-nose and heel-knee tests was much less.

This case well illustrates the main feature of the cerebellar astrocytomas. They occur in the second decade of life (the average age in the present series is twelve), but occasionally are found in adults. They tend to develop in the cerebellar hemispheres and thus produce lateralizing signs. Being benign slow growing tumors, their clinical course is long. Usually morning headaches and vomiting are present for some time before other evidences of an intracranial disorder appear. For this reason they are frequently treated as cases of cyclic vomiting and it is not until failing vision is complained of that a brain tumor is suspected. It is advisable, therefore, to consider the possibility of brain tumor in every case of persistent vomiting.

Many of these neoplasms are cystic and contain a thick, viscid, xanthochromic, spontaneously coagulating fluid. The smooth, yellow wall of the cyst usually has a nubbin of tumor tissue somewhere. This must be removed, or the cyst will recur. Some neoplasms are solid and may contain sufficient calcification to be visible in the roentgenograms of the skull. On cut surface, the tumor is firm, gray, and avascular. Occasionally small cysts may be present. Microscopically the picture is characteristic. The tumor is composed of both fibrillary and protoplasmic astrocytes, but usually one type is predominant. There is no evidence of malignancy.

The majority of these tumors can be completely extirpated, thus effecting a cure. Even if a part is left, the tumor grows so slowly that with a decompression the patient may live many years without symptoms. The operation has a low mortality rate and the convalescence is usually smooth.

Medulloblastomas

The next most frequently occurring tumor in the posterior fossa in children is the medulloblastoma. The following case will serve to illustrate this type of tumor.

Case 2. J. T. (K 1,152), a school boy, six years of age, was admitted to the neurosurgical service August 24, 1934, in stupor. He had been seen the

day before on the pediatrics service at which time he seemed bright but definitely somnolent, falling asleep as soon as he was left alone, although when aroused, he responded well. The parents stated that four to five weeks before admission he began to vomit, usually in the morning, and at times complained of headache. About three weeks before admission he staggered from side to side when he walked. During the week previous to admission the patient was constantly in bed and vomited almost everything he ate. From the onset of his illness he lost fifteen pounds in weight.

When first seen August 23, 1934, he was drowsy but could be aroused and then cooperated very well. His visual acuity was normal although both discs were elevated two to three diopters. There was a coarse nystagmus on looking to the left; a vertical nystagmus with a clockwise rotary component was present on upward gaze. There was a generalized decrease in resistance to passive muscular movements, and a slight ataxia and dysmetria on finger-nose and heel-knee tests. Rapidly alternating movements were poorly performed in all four extremities. Tendon reflexes were sluggish and the plantar responses were flexor in type. Sensation was normal throughout. There was no cracked pot resonance on cephalic percussion. The patient walked on a wide base with a tendency to sway to either side.

The following day the patient was stuporous and could not be roused. His pulse was slow (50 to 60 per minute) and full. There was a definite nuchal rigidity which had not been elicited the previous day. He was taken immediately to the operating room where a ventricular puncture was performed. When the posterior horn on the right side was punctured, the fluid spurted forth under markedly increased tension. Thirty cubic centimeters of fluid were allowed to flow out and then the wound was closed. The patient improved at once, roused from his stupor, and carried on conversation in a few minutes.

On August 28, 1934, a suboccipital craniotomy was performed. The dura was opened exposing normal cerebellar hemispheres. The vermis, not usually seen, was prominent and darker than the surrounding tissue. Both tonsils were herniated through the foramen magnum and it was necessary to remove the arch of the atlas to free them. The vermis was incised and reddish friable tissue was encountered just below the surface. A biopsy of this was reported as medulloblastoma. A small amount of the tumor was removed with the sucker and then after hemostasis had been secured, the wound was closed, with the dura left open. The patient had an uneventful convalescence and was free from vomiting or headache. X-ray therapy was instigated on the tenth postoperative day. Over a period of three weeks 1200 r units were administered to every part of the central nervous system including the spinal cord. He had a second course of therapy of approximately the same strength and at the time of making this report he is beginning a third course.

He has been completely symptomless since his

operation. He is attending school regularly and plays like a normal boy. Except for the cephalic alopecia, a result of his irradiation, one could not tell this patient from any normal child. In spite of this apparent perfect recovery, in less than two years he will very probably return with metastases, and succumb to these in spite of any therapy.

This case then, illustrates the malignant type of brain tumor which occurs in the vermis cerebelli in young children. This is a rapidly growing type of neoplasm with a tendency to metastasize to all parts of the central nervous system. It develops in the vermis of the cerebellum producing symptoms at an earlier age than the astrocytoma, the average age being between five and ten years (in the present series five years of age). Because of its midline position, it gives no lateralizing signs and the only evidence of cerebellar dysfunction is an unsteady gait. Because of its position in the cerebellum the rapid growth of the tumor produces intracranial hypertension early. Therefore, headaches, vomiting, and papilledema are all present soon after the initial symptoms.

Grossly the neoplasm is reddish-gray and vascular; it is practically never cystic. At operation it frequently seems to be encapsulated but that this appearance is false, is evident within a few months by a return of symptoms in spite of a seemingly complete extirpation. Microscopically the tumor is very cellular. The cell outline is difficult to see, but there is little cytoplasm. The nucleus is oval and contains a heavy chromatin network. Many mitotic figures are present. Occasionally one sees cells differentiating to polar spongioblastomas or neuroblasts.

As it is practically impossible surgically to remove these tumors, a biopsy is taken, and then if the diagnosis is verified a decompression is made. Even such a procedure carries a relatively high mortality rate, and frequently the convalescence is stormy. Since the tumor is an undifferentiated one, it responds readily to the roentgen ray for a period of one to two years, and then for some reason the neoplastic cells become radio-resistant and the tumor grows once more. During the interval when the roentgen ray is effective, microscopic examination of the central nervous system may be required to demonstrate neoplastic cells. In some of those cases of intercurrent infections that have terminated fatally or have been re-explored, no gross tumor has been demonstrable in areas where at the previous operation a tumor mass was present. It is important in these cases to irradiate the spinal cord as well as the brain, because in many instances the first evidence of recurrence is pain down one or both legs with signs

of a spastic paraplegia. Such metastases, however, may occur in spite of massive irradiation.

Gliomas of the Pons

Next in frequency are the tumors growing in and around the pons spoken of by older writers as hypertrophied pons, but now usually referred to as gliomas of the pons. The following is a typical case.

Case 3. R. B. (K 10,350), a boy, five years of age, was transferred from the pediatrics to the neurosurgical service April 17, 1935. The patient was comatose when brought in by his parents. The latter stated that he had been perfectly well until just before Christmas of 1934, when he began to vomit in the mornings. About the same time they noticed that he slept with the left eye open and did not seem to move the left side of the face as well as the right. The vomiting became worse. Early in January they noticed that the patient did not use his right arm and that this member became progressively weaker. Shortly after that the patient developed measles and following his convalescence he was unable to use the right arm or leg. Within the few weeks previous to admission he became progressively drowsier and weaker.

Examination revealed a dehydrated and emaciated boy in stupor. His heart, lungs, and abdomen showed no abnormalities. His fundi were difficult to visualize owing to a cloudiness of the cornea but the discs were not choked. External ocular movements were limited, only upward and downward gaze being present. The pupils, however, reacted well to direct light. The left palpebral fissure was larger than the right and there was a constant droop to the left side of the mouth. The facial muscles were immobile all the time. The skull presented nothing abnormal to inspection, palpation, percussion, or auscultation. There was no nuchal rigidity. The patient had a marked right spastic hemiparesis, almost amounting to a hemiplegia, with increased tendon reflexes on that side, and a bilateral extensor response on plantar stimulation.

While the diagnosis of pontine glioma was fairly certain it was felt that a subtemporal decompression and x-ray therapy might offer some relief. Accordingly, under local anesthesia, a left subtemporal decompression was performed. The patient immediately improved, regained consciousness, and took nourishment. Within a few days, however, he started vomiting again. He was given several irradiations, but ten days after admission he suddenly stopped breathing and died within a few minutes. A post-mortem examination confirmed the diagnosis; the pons was greatly distorted by an infiltrating glioma. Microscopically the tumor was a glioblastoma.

These tumors usually occur in young children but occasionally are seen in adults. The frequent absence of intracranial hypertension, which is characteristic of these tumors, for they infiltrate the pons without acquiring a large size, often

leads to an erroneous diagnosis of encephalitis. This disease rarely causes complete paralysis of several cranial nerves, and usually the patients either die within a few days or go on to recovery. Occasionally such tumors may be confused with supratentorial neoplasms, but the multiplicity of cranial nerve involvement and the frequent absence of papilledema in gliomas of the pons should mitigate against this error. In the present case the presence of a left facial weakness far antedating the right sided signs suggested the correct diagnosis.

Pathologically the neoplasm is usually a glioblastoma or polar spongioblastoma but rarely an astrocytoma or ependymoma is found. They respond poorly to roentgen therapy, but occasionally a patient may improve remarkably for a year or two before succumbing.

Ependymomas

There is one other type of tumor that occurs with some frequency in the posterior fossa of children. It is the ependymoma of the fourth ventricle. Arising as it does from the ependyma of either the roof or the floor of the posterior part of the fourth ventricle, it may cause vomiting by local irritation of the floor of the fourth ventricle before the production of intracranial hypertension. The following case illustrates this.

Case 4. E. R. (J 1,634), a boy nine years of age, was admitted to the pediatrics service February 2, 1934, with the complaints of vomiting, two and one-half years; headaches, two years; failing vision, three months; and weakness of arms and legs, four months. His parents stated that he had always been a feeding problem because of vomiting. He could just see light at the time of admission and both discs showed secondary optic atrophy. A course of x-ray therapy was administered and the patient was discharged. His vomiting continued and he returned August 20, 1934. He did not have light perception in either eye and both discs showed secondary atrophy. There was a coarse nystagmus on deviating the eyes to both the right and left. Sensation was intact throughout. All tendon reflexes were sluggish but there were no pathologic responses. He had a mild ataxia on finger-nose and heel-knee tests on both right and left sides. His gait was ataxic and on a wide base.

A suboccipital craniotomy was performed on August 23, 1934, under avertin anesthesia with local infiltration. Both cerebellar tonsils were herniated through the foramen magnum and it was necessary to remove the arch of the atlas to free these. An incision was then made in the left cerebellar hemisphere where resistance could be felt at a depth of four centimeters. A reddish-brown vascular tumor was found and a considerable amount of it was removed. However, the patient's general condition became such that further extirpation seemed inad-

visable; so, leaving a generous decompression, the wound was closed. The patient had a slow convalescence and continued to vomit at regular intervals. He had no further headaches. He gradually improved and now is able to get about fairly well although he is unsteady on his feet, particularly on turning corners. He vomits occasionally although his decompression is not tense and he does not complain of headaches.

Because of their situation in the posterior part of the fourth ventricle, these tumors, as well as producing vomiting early, will block the cerebrospinal fluid pathways and cause violent paroxysmal headaches and pain in the back of the neck. During these attacks the head is markedly retracted and between the paroxysms the patient resents any movement of the head or neck, because he knows this action frequently brings on an attack. Irritation of the nuclei on the floor of the fourth ventricle may produce visceral disturbances: involuntary urination, epigastric or precordial pain, vertigo, syncope or apnea. Grossly these tumors are firm, grayish-red in color, and usually adherent to the floor of the fourth ventricle. Microscopically they are characterized by the arrangement of their cells, radiating from vascular channels. Small granules of blepharoplasten may be seen in the cytoplasm of these cells, usually at the base. Very frequently, as in the above case, it is impossible to extirpate the tumor, for many of them are intimately connected with the pons. In these cases a decompression will often afford symptomatic relief for some years. Roentgen ray irradiation is not very efficacious as these tumors are well differentiated and not radio-sensitive.

ACOUSTIC NEURINOMAS

Of the tumors occurring in the posterior fossa in adult life, the acoustic neurinoma is the most frequent primary neoplasm. It arises from the sheath of the eighth nerve just within the internal acoustic meatus. Its symptomatology in most instances is typical, but in about forty per cent of the cases the classical anamnesis is not present. Neither of the cases in the present series had the march of events which Cushing considered typical for this type of tumor: namely, tinnitus, deafness, suboccipital discomfort, cerebellar disturbances causing dysequilibrium, fifth and seventh nerve involvement, and signs and symptoms of intracranial hypertension. The following case is reported because it represents the result of long neglect of such a lesion.

Case 5. M. L. (H 12,818), a housewife, thirty-nine years of age, was first seen on the neurosurgical service November 22, 1933, complaining of loss of hearing in the left ear for three years; headaches

for ten years, but worse for three months; failing vision over a period of three months; and staggering gait for the same length of time. Her vision was 6/60 in the right eye and 6/40 in the left eye. Both discs showed three diopters of papilledema. There was a nystagmus on looking both to the right or left, more pronounced on looking to the left. Her left ear had about ten per cent hearing. There was a left facial weakness and the left corneal reflex was reduced. On finger-nose and heel-knee tests there was a slight unsteadiness but no true ataxia. On standing or walking she tended to fall to the left. Lumbar puncture showed an initial pressure of eighteen millimeters of mercury, with a good rise on jugular compression. The fluid contained two plus globulin, as tested by Pandy's reagent, and six lymphocytes. She refused operation at that time and returned home. Her vision continued to fail and she became totally blind about April, 1934. Owing to severe frontal headaches and persistent morning vomiting for three weeks she returned to the State University of Iowa Hospital, January 6, 1935, for operation.

At that time she was very emaciated and dehydrated. She was unable to detect light in either eye. Both discs were pale, but elevated two to three diopters. Several small hemorrhages were present on the right disc. The pupils were dilated and fixed. External ocular movements seemed full. There was a slow coarse nystagmus on looking to the left and a fine one on deviation of the eyes to the right. The left palpebral fissure was much larger than the right. The left corneal reflex was absent, although the patient said she felt the cotton. Sensation over the face was normal and the muscles of mastication were equally strong on the two sides. There was a left facial weakness of the peripheral type. The left ear was totally deaf. The tendon reflexes were lively and the left plantar reflex was extensor. No ankle or patellar clonus was present. There was no local weakness in any muscle group. On finger-nose tests there was unsteadiness on the left side. Rapidly alternating movements were moderately decreased bilaterally.

The head was held with the chin to the right and the head tilted to the right so that the right eye was at a lower level than the left. The neck was stiff and when turned to the left, considerable pain was experienced. Marked suboccipital tenderness was present on the right side. She was just able to stand alone for a second, falling usually to the left. When attempting to walk, she staggered to the left. Roentgenograms of the skull showed that the left internal acoustic meatus was dilated.

On January 9, 1935, under avertin anesthesia with local infiltration, a suboccipital exploration was carried out and a small part of the tumor was enucleated. The patient's condition was poor and no attempt was made to remove the entire neoplasm. She had a very stormy postoperative course necessitating a large suboccipital decompression, which gave only temporary relief. A Frazier needle was placed in the lateral ventricle and the ventricular fluid was constantly drained in the hope that the patient's

condition would improve sufficiently to warrant a second attempt at removal of the tumor. She did not rally and in spite of transfusions and intravenous medication she died on the thirteenth postoperative day. The postmortem examination showed a large acoustic tumor of which only a very small part had been removed.

The acoustic neurinomas as a whole are a difficult group to attack surgically. Their position makes them hard to reach, and even with the radical procedures that have been suggested to attack this neoplasm, the tumor can only be removed with infinite care. The mortality rate is relatively high, twenty to thirty per cent in the hands of most surgeons. The intracapsular enucleation suggested by Cushing¹ is still practiced, although Dandy² states that the mortality and morbidity rates are higher with that operation than when the entire capsule is removed.

MISCELLANEOUS

Occasionally other types of tumor occur in the posterior fossa. Chordomas arising from the remnant of the notochord in the basisphenoid are rare neoplasms producing multiple cranial nerve palsies. Neurofibromata arising from other cranial nerves than the eighth are encountered, usually as a manifestation of Von Recklinghausen's disease. Meningiomas not infrequently develop near the internal acoustic meatus producing a cerebellopontine angle syndrome. A somewhat rarer type of condition is the hemangioblastomatous cyst of the cerebellum. This may be associated with retinal angiomas and occasionally with cysts of the spleen, pancreas, and kidneys. The entity was described by a young Swedish pathologist and is now known as Lindau's disease. Metastatic tumors occur in the cerebellum. Most of these cases show evidence of other metastases or a primary growth in the lungs, and it is advisable to take a roentgenogram of the chest in every case of cerebellar tumor occurring in an adult particularly if the symptomatology is of short duration. Some originate in the nasopharynx and enter the cranial cavity by direct extension through the jugular or hypoglossal foramen. Primary sarcomas may arise within the cerebellum. They are rapidly growing tumors, but do not metastasize outside of the central nervous system.

Of the nineteen patients in the present series, fifteen are alive at the present time, although two are in poor condition. Of the four who died, three had undergone major operations. Thus the case operative mortality rate, calculated according to Cushing's standard², is 16.6 per cent. Cushing holds that any patient, who dies after a major operation before he is discharged from the hospital must

be included in estimating the operative mortality rate, even if that patient had lived several weeks after the operation. The case mortality rate at the Peter Bent Brigham Hospital between May 1, 1928, and January 1, 1929, was 12.6 per cent.

Of more importance, however, is the consideration of those who are permanently restored to health. Although fifteen of the nineteen patients are alive today, six of these will have succumbed to their affliction within five years unless medicine makes miraculous strides in the treatment of neoplasm within the next few years. Two patients who may survive the five year period are blind and will never be able to carry on a normal existence. There then remain seven patients, five with astrocytoma of the cerebellum, one each with acoustic neurinoma and cerebellopontine angle cyst, who on the basis of past experience, should be able to lead normal lives. Approximately, thirty-seven per cent of the cases will be restored to health. With earlier diagnosis and better operating technic the gloomy prognosis of brain tumors should continue to brighten.

SUMMARY

A review of nineteen cases of tumors of the posterior cranial fossa is presented.

The symptomatology, diagnosis, prognosis, and operative mortality rates are discussed.

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HYPERTONIC GLUCOSE THERAPY IN CARDIOVASCULAR DISEASES*

M. G. MEYER, M.D., Marshalltown

The intravenous administration of glucose has now become one of the most common of hospital and office procedures. That it can be administered with comparative safety, in variable concentrations, variable amounts, and in variable disorders is hardly questioned at this time. The fact that its use meets effectively so many situations, and that intravenous administration tends to give the patient the feeling of dramatic aid, has probably resulted in a certain amount of overemphasis. Many of us inadvertently reach the conclusion in a vague way that it is a universal panacea, or at least entirely innocuous. Believing that its rather widespread personal use has resulted in several iso-

lated accidents I wish to review briefly certain precautions with which we are all familiar but probably slightly contemptuous.

Primarily one should mention that the solution should be warmed to body temperature, and that a solution made and tested by a standard pharmaceutical house should be used. Buffer solutions are not generally necessary now. In addition one should remember that any concentrated solution is extremely irritating to subcutaneous tissues,



and a 50 per cent concentrated solution almost invariably causes sloughing. Consequently one should be very sure that the needle is well placed in the vein. Too rapid administration of even small amounts, i.e., 30 to 50 cubic centimeters is attended with a definite drop in blood pressure as

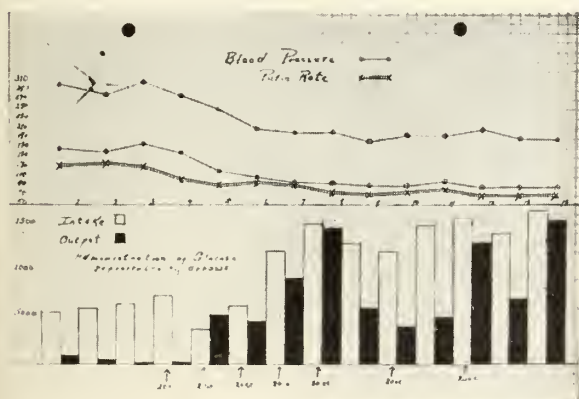


the following pressure readings will show. You will also note the effect of a slower rate of administration which is attended with a slight transient rise in pressure and consequent leveling off. Pulmonary edema is another possibility when the compensation is in delicate balance, although I have never seen it when less than 50 cubic centimeters were used. The resultant hydremia could produce it. Venous thrombosis rarely occurs if the

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fort. Alleviation of subjective symptoms such as heart consciousness, headache, dizziness, and mental cloudiness is marked. A rather stereotyped plan of procedure is followed in the severe type of case. These patients are given daily injections of 50 per cent dextrose in doses of 20 to 30 cubic centimeters, and four ounces of lemonade, with two ounces of lactose, and two graham crackers, every three hours, five times a day. No other food or medication is given during the first week. Venesection is resorted to in malignant hypertension. With this plan the blood pressure assumes a lower level and the subjective symptoms are relieved. A diuresis, in my experience, has invariably resulted. I should like to quote one case as an illustration.

A white woman, sixty-two years of age, was referred to us because of numerous retinal hemorrhages, infra-orbital edema, headaches, dizziness and mild convulsive twitching. Other objective findings were a blood pressure of 300/180, a heart rate of 130, a loud blowing systolic murmur, and edema of the ankles and hands. Urine examination showed a specific gravity of 1.004, one plus albumin, and many granular casts. During the first forty-eight hours after admission 75 cubic centimeters of urine were voided. Following the procedure outlined previously the pressure subsided to 220/150 to 200/130, the urinary output approximated two-thirds of the intake and the heart rate subsided to 90 to 100. Subjective improvement paralleled the objective. Since leaving the hospital she has maintained this status for a period of five months. A combined graph showing

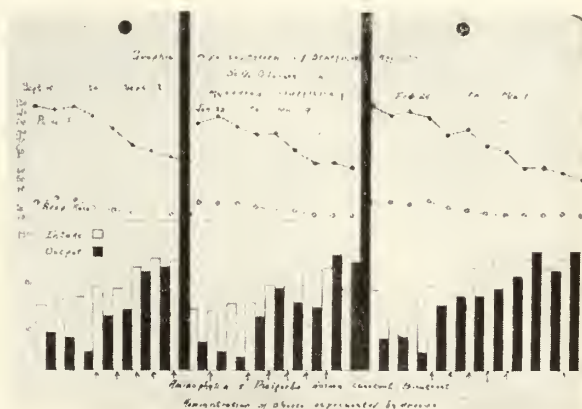


blood pressure, the urine intake and output, and pulse rate is herewith shown.

We shall pass briefly over diphtheritic carditis. The value of glucose in this condition has been emphasized repeatedly. The necessity for hypertonic strengths occurs only if the circulatory system is too overloaded to permit the introduction of excess

fluid. My experience in diphtheritic carditis is limited to one case, a child seven years of age, with circulatory collapse. He seemed to respond very favorably to the use of 100 cubic centimeters of 25 per cent concentrated glucose daily. Naturally the relief of acidosis is of equal importance.

Chronic congestive heart failure due to arteriosclerotic degeneration also responds favorably to this type of therapy. Improved circulation through the coronary arteries and the increased food supply to the myocardium accounts for symptomatic relief. The value of a high carbohydrate diet is now unquestioned. I believe the place that intravenous glucose holds here is in the stage of acute failure, preceding its relief by digitalis or the xanthine derivatives. After this time the diet is well tolerated. I should like to illustrate its use by showing the effect on output, pulse rate, and respiratory rate in the case of a man eighty-four years of age, with progressive heart failure, extending over a period of several years, resulting finally in acute cardiac asthma, hydrothorax and dependent edema. You will note the definite improvement and



the apparent ability of the glucose to restore compensation after failure supervened three times. All other measures such as dietary, digitalis, aminophyllin dosage and rest were constant throughout.

I am omitting rheumatic and syphilitic heart disease from my discussion. The favorable influence of glucose in these conditions would depend entirely on its ability to overcome any complicating edema. This would be the necessity for its being hypertonic. In acute thyrotoxicosis it has been our practice to utilize the effects of glucose with intravenous iodides by giving them simultaneously immediately after the operation. There seems to be less shock and a definite decrease in acute toxicity at this critical period.

In conclusion I wish to emphasize that experimentally 50 per cent glucose increases coronary

flow and dilates the coronary arteries, that it definitely increases the glycogen content of the heart muscle, and that it acts as a diuretic. Practically I believe it fulfills these premises in the human being and that it is particularly useful in coronary occlusion, cardiorenal failure and chronic myocardia degeneration with failure. It is not a panacea in cardiovascular disease, it does not rank with digitalis and the xanthine preparations, but I believe is definitely useful when used in conjunction with them.

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ECTOPIC PREGNANCY*

PAUL F. MINER, M.D., Woodward

In a review of fifty-one cases of extra-uterine pregnancies on file in St. Luke's Hospital, Duluth, Minnesota, fifty are listed as tubal and one as primary abdominal pregnancy. The incidence of ectopic pregnancies varies somewhat according to different writers, being reported as high as one for every 134 intra-uterine pregnancies, by Sivertsen¹ in his six year survey at Minneapolis and St. Paul, but most writers think the incidence is about one to 300 intra-uterine pregnancies. The ages of the patients correspond with that of intra-uterine pregnancies. Of fifty-one cases, thirty-nine or 76.4 per cent were between twenty and thirty-four years of age. Two cases occurred in unmarried girls and one case in a widow. None of these three was diagnosed correctly preoperatively.

Much has been written concerning etiology. The theory of previous tubal inflammations seems most widely favored. Brown² found definite history of pelvic pathology in fifty per cent of his patients and Mueller³ found that sixty per cent gave positive past histories. Of thirty-three case records giving past histories, twelve (36.5 per cent) mentioned miscarriages or abortions, another six (18.1 per cent) had had previous pelvic operations, and one (three per cent) had definite pelvic inflammatory disease, leaving 42.4 per cent with a history of no miscarriages, abortions, pelvic operations or disease. Brown² and Schumann⁴ and others believe that salpingitis due to gonorrhea or to postabortal infection presumably results in loss of cilia from tubal epithelium, fusion of the tips of inflamed villi with development of pseudo-

diverticula and infiltration of tube wall with diminution or loss of tubal peristalsis. Masson⁵ also mentions congenital anomalies of the tubes as a result of malposition of the uterus or as a result of pelvic tumors. Mueller³ suggests a hormonal factor as etiologic. Previous given tests for sterility, particularly lipiodol have been suggested by some authors⁶ as a causative factor. The fact noted by many authors that women who have had several normal pregnancies almost never have an ectopic pregnancy is true in our series. Of the 42.4 per cent having a history of no miscarriages, pelvic operations, abortions or pelvic inflammatory disease, half of them had had no pregnancies and 42.1 per cent more had had but one or two pregnancies.

The symptoms noted most commonly were pain and menstrual disturbances. Forty-eight of fifty patients (96 per cent) mentioned pain as a definite symptom. One patient had cramp-like pains after taking medicine, presumably ergot, and the other patient had slight right lower quadrant pains to which she attached no significance. Pains were noted as low abdominal, suprapubic or in both lower quadrants by twenty-five patients. Other pains were noted as:

	Patients	Per Cent
Pains in right lower quadrant.....	15	30
Pains in left lower quadrant.....	10	20
Cramp-like or bearing down pains	10	20
Pain to shoulder.....	8	16
Pain to rectum.....	1	2

Masson⁵ believes the degree of pain is in direct proportion to the amount and rapidity of dilatation of a tube, or to the tearing apart of a fold of broad ligament as a result of tubal rupture and of hemorrhage between the folds of broad ligament. Others note the significance of pain as related to the bleeding. The pain of rupture causes sudden severe pain, and if sufficient bleeding occurs intraperitoneally, pain to the shoulder results. The pain of abortion is at more frequent intervals, and is dull, diffuse and cramp-like in nature.

Menstrual disturbance was present in forty-five patients (90 per cent) and in many instances was the first symptom noted by the patient. Four (8 per cent) stated there was no menstrual disturbance. No statement concerning menstruations was made in one instance. On admission the dates of the last normal menstrual periods were:

	Patients	Per Cent
3 months	1	2
2 to 3 months.....	11	22
6 weeks to 2 months.....	14	28
4 to 6 weeks.....	10	20
2 to 4 weeks.....	11	22
1 week or less.....	1	2
No dates	2	4

*Presented before the Dallas-Guthrie Medical Society, Perry, August 20, 1936.

Vaginal bleeding or spotting was noted after the last normal menstrual period as follows:

	Patients	Per Cent
2 to 3 months.....	1	2
6 weeks to 2 months.....	2	4
4 to 6 weeks.....	8	16
2 to 4 weeks.....	11	22
1 to 2 weeks.....	5	10
Less than one week.....	12	24
No dates	11	22

From these data one notes that 22 per cent of the patients had amenorrhea of more than four weeks duration and actually missed a period. The patient usually continued to menstruate but the flow was either scanty or prolonged. In many instances the disturbance was considered by the patient to be very insignificant, and she did not consult medical advice because of this disturbance, but more often because of the pain.

The time at admission since the onset of irregular bleeding was as follows:

	Patients	Per Cent
6 weeks to 2 months.....	5	10
3 to 6 weeks.....	11	22
2 to 3 weeks.....	13	26
1 to 2 weeks.....	12	24
Less than one week.....	1	2
No dates	8	16

Bleeding was never profuse and varied from spotting to normal menstrual flow. In few instances it was mentioned as dark brownish in color and foul in odor. Other symptoms mentioned were:

	Patients	Per Cent
Fainting	9	18
Felt faint	14	28
Vomiting	21	42
Nausea without vomiting.....	10	20
Dysuria	4	8
Retention	1	2
Diarrhea	2	4
Fullness in pelvis.....	2	4
Morning sickness	3	6
Breasts enlarged	1	2
Breasts sore	1	2

The physical examination varied from almost negative findings to that of shock. Abdominal tenderness was the most common finding, being present in 48 cases (96 per cent). Abdominal palpation revealed a mass in three instances. The average systolic blood pressure was 107.5; the average diastolic blood pressure was 63.9; the average temperature was 99 degrees; and the average pulse was 89, corresponding to the temperature except in cases of shock. Pelvic examination was recorded in twenty-seven instances with the following findings:

	Patients	Per Cent
Enlargement of uterus.....	11	40.7
No enlargement of uterus.....	3	11
Softening of cervix.....	6	22.2
Mass felt	17	62
Pain or tenderness on examination	27	100
Pain on motion of uterus.....	24	88.8

In ectopic pregnancy the white blood count is commonly elevated out of proportion to the temperature. The white blood count varied from 4,600 to 32,000 with an average of 14,752. The white blood count has been said to correspond to the amount of blood found in the peritoneal cavity and this was found to be true in all our cases. The differential counts showed an increase in polymorphonuclears corresponding to the leukocytosis, the average being 76 per cent and lymphocyte count of 21 per cent. Mueller³ stresses the sedimentation rate as a differential point of ectopic pregnancy from pelvic inflammatory conditions since the sedimentation rate shows a change later than the white blood count in the course of an infection. The rate in ectopic pregnancy is thirty minutes or more in 80 per cent of his cases, and less than 30 minutes in almost 70 per cent of cases of pelvic inflammatory condition. This test is thought to be of little value by some other authors. The red blood count varied from 2,270,000 to 4,550,000 with an average of 3,626,000. The hemoglobin readings averaged 67.8 per cent, the lowest being 33 per cent. Urdan⁷ says the hemoglobin is not an accurate indication of hemorrhage because of the twenty-four to forty-eight hours' delay in the fall of hemoglobin after a hemorrhage.

Preoperative diagnoses were wrong in fifteen cases (30 per cent), including the following:

Acute appendicitis	1
Acute appendicitis and endometritis.....	1
Salpingitis	3
Salpingitis (until just before operation)....	1
Salpingitis—bilateral pelvic peritonitis.....	1
Pyosalpinx	1
Pelvic inflammatory condition.....	1
Perimetritis (until just before operation)....	1
Cystic ovaries	3
Abdominal exploratory (no diagnosis).....	2

Little difficulty in diagnoses is encountered in those cases where the tube has been perforated, and where there is profuse hemorrhage. The diagnosis in the unruptured case is very difficult. Salpingitis or pelvic disease caused the most confusion in our series. An accurate history of the menstrual periods with the type and amount of bleeding is an aid, but additional history of fainting and shoulder pain is much more significant. If the pelvic examination shows tenderness, softening of the cervix and the presence of a mass, an ectopic pregnancy is the reasonable diagnosis.

Brown² stresses needling of the cul-de-sac as a diagnostic aid and thinks this is especially valuable where a hematocele is suspected in the cul-de-sac and symptoms are not marked. This method also will differentiate a pelvic abscess. Other writers look with great disfavor on aspiration of the mass in the cul-de-sac.

The Ascheim-Zondek test should be of value. The Friedman test was listed as positive in three of our cases and an Ascheim-Zondek as negative in a fourth. A negative Ascheim-Zondek or Friedman test does not rule out ectopic pregnancy because the death of the fetus and the loss of corpus luteum often occur by the time the patient seeks medical advice; however, a positive test should be considered significant.

Threatened abortion is often reported as contributing to the confusion in diagnosis because it also alters the menstrual cycle with bleeding or spotting and abdominal cramps. Bleeding in abortion is more profuse and clots are common. Fainting, shoulder pain, and history of scanty dark bloody discharge, indicate ectopic pregnancy. Bleeding in abortion diminishes with bed rest, but bed rest has no effect on the bleeding of ectopic pregnancy. Acute salpingitis and threatened abortion are the most important differential diagnoses, because they are both non-operative conditions.

All authorities agree that the treatment of ectopic pregnancy is operative. A large number of gynecologists formerly believed in waiting if the patient was in shock, but this belief has gradually lost support in favor of immediate operation. Immediate operation has been stressed recently by DeLee⁸ and others, regardless of the patient's condition. Treatment of shock should not delay operation but intravenous solutions or transfusions should be given at the operating table.

Abdominal laparotomy was done in all our cases with procedures as follows:

	Patients	Per Cent
Unilateral salpingectomy	24	48
Unilateral salpingectomy and oophorectomy	23	46
Bilateral salpingectomy and unilateral oophorectomy	2	4
Bilateral oophorectomy and unilateral salpingectomy.....	1	2

Several authors have stressed unilateral salpingectomy with complete removal of the involved tube as the treatment of choice because of the absence of pathology in the opposite tube or ovaries, and because of the probability of these women having future normal pregnancies. In our series there were two patients who had had previous ectopic pregnancies in the opposite tubes. Masson⁵ found that 44 per cent of the patients, after approximately five years, had had normal intra-uterine pregnancies. Pathologic study revealed chorionic villi in almost every tube, but only four fetuses were found grossly in our series. The incidence of perforation and tubal abortion were as follows: right tube aborted, twenty; right tube

perforated, eleven; left tube aborted, ten; left tube perforated, nine.

Transfusions and iron have been suggested to hasten convalescence which is generally rapid. The average hospitalization of our patients was 15.16 days. Operative treatment of earlier diagnosed cases has greatly reduced the former non-operative mortality rate of 78 per cent reported by Parry⁹ as late as 1876 to a present day mortality rate of zero to five per cent, as given by various leading medical institutions. Our mortality rate with 51 cases was zero.

In addition to these cases of tubal pregnancy there was one in our series of fifty-one cases which was thought to be a true primary abdominal pregnancy. Three days before admission this patient had had sudden severe abdominal pain with considerable rectal pain lasting eight to ten hours. On the day before admission she noted a recurrence of these pains with marked weakness. She menstruated as usual. Her past history included cholecystectomy and appendectomy. She had been married nine years without pregnancy. Physical examination revealed diffuse abdominal tenderness and rigidity. Her temperature was 98 degrees. The laboratory findings were, red blood count, 3,040,000; white blood count, 16,700; and hemoglobin, 57 per cent. An operation revealed a reflection of peritoneum onto the anterior surface of the cervix and placental mass adherent to the intestine. The uterus, tubes and ovaries were normal. The placental mass with the fetus was removed and the convalescence was uneventful.

SUMMARY

1. In reviewing fifty-one cases of ectopic pregnancy, fifty are described as tubal pregnancies and one as primary abdominal pregnancy.
2. Extra-uterine pregnancies occur most commonly between twenty and thirty-four years of age, in the same age range as intra-uterine pregnancies.
3. Miscarriages and abortions were most common pathologic conditions in the past histories of our series.
4. Symptoms noted most frequently by patients were pain and menstrual disturbances. Fainting and vomiting were also common.
5. Pelvic findings were most significant on physical examination with the finding of pain and tenderness most common.
6. Laboratory findings included leukocytosis varying up to 32,000 with an average count of 14,752. Red blood counts and hemoglobin were in the low grade anemia class.

7. Preoperative diagnoses were definitely wrong in 30 per cent of the cases, the most confusion existing with salpingitis.

8. The mortality rate was zero and the average stay in the hospital was 15.16 days, with transfusions and iron the most common methods of hastening convalescence.

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ROCKY MOUNTAIN SPOTTED FEVER

L. B. SEDLACEK, M.D., Cedar Rapids

The occurrence of Rocky Mountain spotted fever in packing house workers in Iowa to date has been conspicuous by its absence. The patient in this case report was a meat trimmer in a local packing plant. His past medical history was essentially negative except that two years previously he had had a rather severe case of undulant (Malta) fever, from which he made a good recovery.

Two weeks prior to his present illness he was transferred from his ordinary work to trucking meat into a car. During the course of this work he had to pass hides which were hung from the ceiling of the room. From time to time he brushed against these hides. As far as can be determined these hides were from animals which had been killed two to three days earlier. The patient stated that on his way home that evening he felt something biting him on the neck, and that he removed a tick.

About ten days later he began to feel slightly ill, but continued working. On September 6 he felt very ill, but went to work; on September 7 he felt worse and stayed at home. He had a very severe headache, general malaise, and according to the patient's statement, a very high temperature. He was nauseated but did not vomit. He continued to get worse, and on September 10 (four days after onset) I was called in to see him. At this

time the following symptoms and signs were found: the temperature was 103 degrees; pulse, 100; throat and chest were negative; blood pressure was 130/90; abdomen was negative; tongue was dry and coated. He seemed to have a slight stiffness of the neck, but Kernig's sign was negative.

General treatment was given this patient and he felt much better the following day. However, that evening his headache became much worse. His temperature rose and he became delirious. A blood test ruled out a recurring undulant (Malta) fever or typhoid fever. His condition gradually became worse and his neck became more stiff. Kernig's sign remained negative. On September 16 a general rash, red and macular in type, developed. A lumbar puncture was negative, and a blood culture was negative. Other conditions were ruled out, leaving Rocky Mountain spotted fever as the only diagnosis. A sample of the patient's blood was sent to the laboratory, and reported positive for Rocky Mountain spotted fever in the 1:640 dilution.

On admission to the hospital he had a temperature of 99 degrees; pulse, 100; respiration, 26; white blood count, 9,600; red blood count, 4,920,000; specific gravity of urine, 1.010; albumin, two plus; a few pus and blood cells and many casts. The next day his temperature rose to 101 degrees, and the pulse to 130. However, within a few hours the temperature dropped to 99 degrees and the pulse to 66. The blood count rose to 12,800, and from then he began gradually to improve. It was necessary to catheterize him for four days.

He was discharged from the hospital on September 30, as convalescing, with the following laboratory findings: temperature, 98 degrees; red blood count, 3,500,000; white blood count, 7,500; hemoglobin, 80 per cent; specific gravity of urine, 1.015; albumin, one plus, with blood and pus still present, but no casts. The rash began to fade and was entirely gone in about three weeks. The patient "peeled" as in scarlet fever. The blood still showed a positive Rocky Mountain spotted fever agglutination of 1:320 on November 26 (eighty days after onset).

An attempt was made to determine if the ticks might have come from some other source than the hides, but the patient is positive that he removed a tick from his neck as before stated. The residence of this patient is at the edge of the city, adjoining a rural area.

The patient at this date (March, 1936) is well except for a general weakness and an arthritis in both shoulders.

Case Report

PERFORATED GASTRIC ULCER AND MECKEL'S DIVERTICULUM

A. L. PERTL, M.D., Canby, Minnesota

A school girl, seventeen years of age, had so-called slight indigestion on October 31, 1936. Her appetite was fair and she complained only of slight belching after meals. Her bowels were functioning normally and she continued to work as usual both at home and school. On November 3, 1936, she had her lunch at school, and immediately after finishing she was seized with a sudden sharp pain over the entire abdomen, but more marked in the lower right quadrant. The attack occurred at 12:30 p. m. Her temperature was 97.4 degrees, pulse 116, respiration 24. There was marked pallor but no sign of collapse. This attack lasted about twenty minutes. On examination there was definite pain, tenderness and rigidity on the entire right side, more so from the navel downward. The urine examination and the blood counts were normal. She was immediately hospitalized but operation was delayed until the parents could be notified and consent obtained from them. At 2:30 p. m. morphine sulphate 1/6 and atropine sulphate 1/150, were given but within thirty minutes she had another attack similar to the first; the latter lasted only ten minutes.

At 3:00 p. m. she was taken to the operating room and a mid-right rectus incision was made. When the abdomen was opened, slight watery fluid escaped, accompanied by some flocculent material. The cecum was markedly congested posteriorly, with some fibrinous exudate adherent. The appendix was only slightly injected. Twelve inches from the ileocecal junction a Meckel's diverticulum, was found, four inches in length and one inch in diameter, the proximal half was patent and smooth while the distal half was closed with the peritoneal serosa thickened and papillary in appearance. The incision was then extended upward and at once more exudate and injection were noted in the epigastric area. Further search revealed a perforation about one-eighth of an inch in diameter on the anterior surface of the stomach near the pylorus. The ulcer area was about three-fourths of an inch in diameter.

The perforation was sutured and the omentum was plastered over the involved area. The abdomen was closed without drainage. She had a rapid and uneventful recovery and was discharged from the hospital on November 13, 1936.

THE FINLEY HOSPITAL CLINICO-PATHOLOGIC CONFERENCES

CYSTS OF THE KIDNEY

C. C. COADY, M.D. and J. M. WALKER, M.D.,
Dubuque

Our interest was aroused in cysts of the kidney because we recently had three cases in patients who died suddenly. Up to 1920 these lesions were considered pathologic curiosities which were usually found at necropsy. Today, because of improved methods of diagnosis, their clinical manifestations are better understood and many are amenable to surgical treatment. While not common, cysts of the kidney should be kept in mind in the differential diagnosis of renal disease. In this paper we are reporting our three cases, and have briefly reviewed the recent literature especially in regard to solitary cysts and congenital polycystic disease of the kidneys.

CASE REPORTS

Case 1. The patient, a man sixty-nine years of age, died from a fractured skull with a cerebral hemorrhage as the result of falling downstairs. At necropsy solitary cysts (Fig. 1) were found

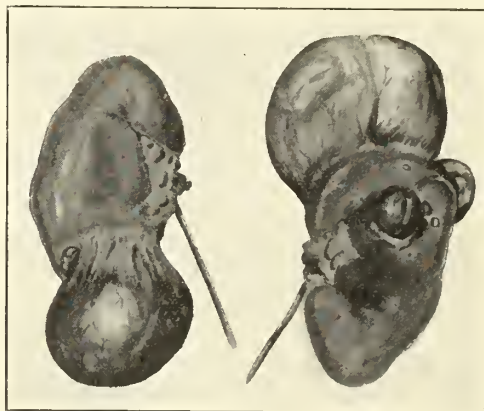


Fig. 1: Photograph of water colored drawings of the kidneys. Note large cysts at lower and upper poles of the left and right kidneys respectively.

in each kidney. On the left there was a single cyst measuring sixteen centimeters in diameter at the lower pole. On the right there was a similar cyst at the upper pole, and two smaller cysts in the upper third of the kidney. In addition there were three minute cysts similar to the ordinary retention cyst seen in arteriosclerotic disease. Micro-

scopically the kidney showed changes in the renal parenchyma due to arteriosclerosis. The walls of the cysts were composed of a thin layer of connective tissue without lining membranes.

Case 2. The patient, a white man sixty-two years of age, who was known to be a heavy drinker, was found dead on the floor of a room in his home where he lived alone. In another room a smouldering fire was found in his bed by a neighbor who was attracted by the smoke coming from the window. At necropsy the principal findings, in addition to moderate arteriosclerosis, were bilateral polycystic disease of the kidneys, edema of the brain, and acute congestion and edema of each

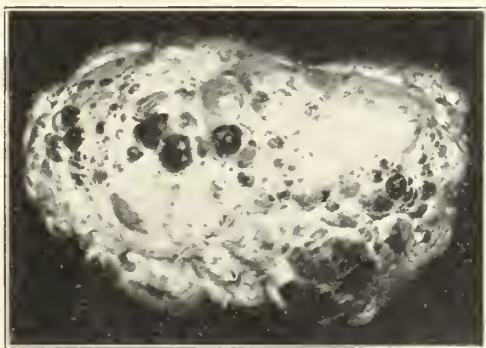


Fig. 2: Photograph of the left kidney which measures 18x10x10 centimeters and weighs 1000 grams. The right kidney weighs 1200 grams.

lung. There were also multiple minute cysts beneath the liver capsule and a typical talipes equinovarus on the right. It was judged that the patient had died from uremia precipitated by an alcoholic bout of the previous evening. The right

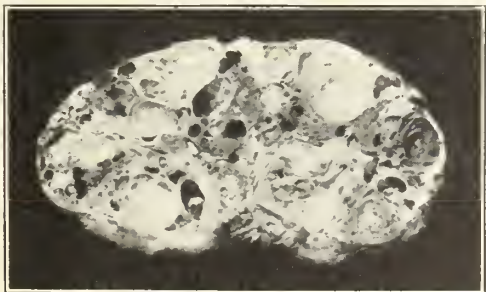


Fig. 3: Cross section of the left kidney showing remnants of parenchyma between the cysts.

kidney weighed 1200 grams and measured twenty by twelve by ten centimeters. The left kidney weighed 1000 grams and measured eighteen by ten by ten centimeters. Each presented enormous numbers of thin walled cysts containing clear fluid

or colloidal material with very little renal parenchyma between the cysts (Figs. 2 and 3). Microscopically the cysts were lined by a more or less flattened cuboidal epithelium which occasionally extended in papillary formation into the lumina. The remnants of renal parenchyma showed thickening of the blood vessels, hyalinization of many of the glomeruli, moderate round cell infiltration, and occasional hemorrhages into the glomerular spaces.

Case 3. The third case was that of an infant who died shortly after birth. He had been born after a normal pregnancy and delivery. There was no family history indicating polycystic disease of the kidney, and there were no other congenital defects. The kidneys were essentially equal in size and together weighed 900 grams. The enlargement of the kidneys was due to an enormous number of small thin walled cysts occupying all parts of the renal parenchyma, but being most abundant in the cortex. Microscopically the cysts were lined by cuboidal epithelium not unlike that seen in the renal tubules.

GENERAL DISCUSSION

Types of Renal Cysts. While there is no adequate classification of renal cysts, the following types, aside from those associated with tumors, are recognized:

1. Retention cysts.
2. Solitary serous cysts.
3. Multilocular cysts.
4. Hemorrhagic cysts.
5. Congenital polycystic disease.

Retention cysts are small, contain clear fluid or colloidal material, may be few in number, or may cover the outer surface of the kidney. They do not cause enlargement of the organ. Clinically, they are of secondary importance to the glomerulonephritis (contracted kidney) or to arteriosclerotic renal atrophy. They are caused by retention of urine due to obstruction of tubules by scar tissue.

Solitary serous cysts are comparatively large, thin walled, cavities situated at one of the poles of the kidney. They contain clear, serous or serosanguineous fluid. While there are many theories as to their etiology, Hepler's¹ belief that they are acquired and due to localized areas of renal degeneration caused by vascular damage and combined with a group of obstructed tubules, best explains the mechanism of their formation. Furthermore, Hepler's experiments in which he was able to produce solitary cysts in the kidneys of rabbits confirm his theory.

Multilocular cysts of the kidney are exceedingly rare and consist of a collection of small cysts within a single large cyst. They may be congenital or acquired. It is believed by some workers that they are of a variation of the solitary cyst. It is admitted, however, that they may be a localized form of congenital cystic disease of the kidney. Clinically, they present the same signs as the solitary cysts.

Hemorrhagic cysts of the kidney, aside from those associated with tumors, are almost always solitary, and occur in any part of the kidney, but especially in the lower pole. They are found in adult life and are usually fairly large. The walls which are thick and fibrous are continuous with the renal capsule. The content of the cyst is more or less completely organized blood clot or recently shed blood. The cysts do not communicate with the pelvis of the kidney. Their origin is not understood. Some believe they are organized hematomas; that they are the result of hemorrhage into a solitary cyst or that they have their origin in undetected neoplasms. Judd², after careful histologic studies in which remnants of blood vessel walls were found, believes that they may originally have been aneurysms.

Congenital polycystic disease of the kidney is encountered at all ages, and may even interfere with birth. Clinically most cases are encountered in individuals over thirty years of age. In this condition, which is bilateral, the renal parenchyma is more or less completely replaced by small or moderately large cysts filled with clear fluid, colloidal material, or old blood. The kidneys are enlarged, sometimes greatly, and on section, aside from remnants of the renal parenchyma, are composed of the cysts. While other theories as to their origin have been proposed, it is generally agreed that the cysts are the result of a developmental defect in which there is malunion of the convoluted tubules and the collecting tubules, the former being derived from a metanephros and the latter from the wolffian ducts. The malformation in the kidneys is frequently accompanied by other congenital defects, such as harelip, polydactylism, club feet, spina bifida, cysts of the liver, pancreas, et cetera.

Diagnosis. Solitary cysts are acquired lesions, are equally frequent in each sex and clinically are found in individuals between thirty and sixty years of age. In all probability many are latent for long periods of time. In those patients with symptoms, the history indicates the discovery of a tumor in the kidney region with a gradual increase of size. At times the development is rapid and may

be accompanied by pain, soreness, nausea, vomiting, or diarrhea. If the cyst becomes infected the onset is similar to that of other acute infections of the kidney. On physical examination the cyst may be felt as a tense or fluctuating, smooth mass resembling a neoplasm. According to Herbst and Vynalek³ an exact diagnosis can be made in most of the cases by x-ray examination. The roentgenogram may show (a) a normal pyelogram; (b) pyelectasis; (c) compression of the calices or the true pelvis; (d) change in position and axis of the kidney; (e) the outline of the shadow of the cyst itself, or (f) calcification of the cyst wall. Both intravenous and retrograde pyelography should be utilized in the x-ray studies.

Renal polycystic disease is a congenital condition and not infrequently there are associated defects or a history of its occurrence in other members of the family. Infants with the disease may die at birth or soon after, but those who survive usually reach adult life without clinical symptoms. Then, a gradual or sudden loss of renal function becomes evident. At times the development of uremia is sudden and death quickly ensues, as apparently occurred in Case 2. The majority of patients present themselves with symptoms when they are between thirty and sixty years of age, the average age being forty-five years. In typical cases the diagnosis may be relatively simple (Oppenheimer⁴). A history of loin or abdominal pain, hematuria, nocturia, or loss of weight in a patient with bilateral tumors in the kidney regions, makes the diagnosis probable. A variable degree of hypertension occurs in approximately two-thirds of the cases. Intravenous urography should prove the diagnosis because the roentgenograms are usually characteristic. Retrograde pyelography may also assist in the differential diagnosis, but it is essential that a non-irritating medium be used. There is some danger in doing bilateral pyelography in the presence of polycystic kidneys and therefore one side should be done at a time. Infection and calculi are the two most common complications of polycystic kidneys. Infection may occur in several forms such as pyelitis, pyelonephritis, or as a localized or diffuse suppurative process. In any of these, but especially in the latter, perinephric abscesses are likely to occur. Tuberculosis is another very rare complication, but malignant tumors do not arise in polycystic kidneys.

Treatment. The treatment of solitary cysts of the kidney should be conservative. Enucleation of the cyst or resection of that part of the kidney in which the cyst is embedded is usually all that

should be done. Only when the greater portion of the renal parenchyma has been destroyed by pressure, by suppuration, or by the presence of tuberculosis, should nephrectomy be considered. Enucleation of the cyst is often aided by first emptying it by means of a trocar.

The treatment of polycystic kidney should also be conservative and is similar to that given in chronic glomerulonephritis. It includes adequate rest, avoidance of physical or mental stress, dietetic regulation to prevent excessive work on the part of the kidney, and especially the elimination of infection. If pyelitis or pyelonephritis occur, catheter drainage and pelvic lavage may be beneficial. As a rule surgical procedures are contraindicated, but they may be required when localized or diffuse suppuration with or without perinephric abscess occurs. Then, drainage with nephrotomy is indicated. Only in cases of persistent suppuration in which drainage has failed to alleviate symptoms should nephrectomy be considered. Occasionally pressure symptoms make life unbearable or the polycystic kidney may be detected at operation. In such instances fair results may be obtained by decapsulation and multiple punctures and evacuation of cysts, as suggested by Rovsing⁵. This procedure results in a decrease of intrarenal pressure, and when done with good judgment may give considerable benefit and prolonged life.

In conclusion it may be stated that in polycystic disease of the kidney no operation should be considered without adequate knowledge of the functional capacity of each kidney.

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CLINICAL NOTES FROM THE COLLEGE OF MEDICINE

MALIGNANT LYMPHOMA WITH ARTHRITIC SYMPTOMS

MARK L. FLOYD, M.D.

Iowa City

From the Department of Pediatrics

On several occasions children with malignant lymphoma have come under our observation. These children showed no obvious evidence of lymphoma, and the chief symptoms were related to what appeared to be arthritis. This has happened with sufficient frequency to make it desirable to call attention to this possibility and to suggest that a child with atypical arthritic symptoms might well be studied for the presence of malignant lymphoma even to the extent of securing a biopsy of a lymph node.

There are a few reports of malignant lymphoma with symptoms simulating those of arthritis but these reports are limited chiefly to the leukemias. It is to be emphasized that these symptoms may also be associated with other types of lymphoma. They may simulate those of either chronic or acute arthritis. Because of the mildness of the early symptoms and the slow progress of the disease in some patients, the true nature of the illness may be overlooked for several months. The following condensed case resumés are offered as examples of lymphoma disease associated with arthritic symptoms. Detailed laboratory and physical findings are omitted since in each case the diagnosis was eventually proved to be correct.

Case 1. (P7031). A boy, five years of age, began limping on one leg five months before he came under our observation. The limping began two weeks after a sore throat which had subsided promptly. The pain which was in an ankle continued for two weeks and then ceased. After two more weeks of apparent recovery, pain occurred in both ankles and one hip, continuing for three months and becoming severe enough to cause the child to remain in bed. Eventually he was unable to move the thigh or to bear weight on the legs. At the first examination the blood showed 1,430,000 erythrocytes per cubic millimeter, and a high proportion of lymphocytes. The spleen was not palpable and the lymph nodes were not enlarged. Within a week, however, a generalized lymph gland enlargement appeared. Biopsy of one of the lymph glands revealed malignant lymphoma of the lymphocytic type. Roentgenograms of bones showed areas of varying density in the spinal vertebrae, ribs, pelvis and long bones, not to be mis-

taken for those observed in the atrophy of disuse.

Case 2. (D6148). This was a boy, three years of age, whose illness began nine months previously with limping and a peculiar gait associated with pain in the ankles. Swelling and joint tenderness were not apparent. The pain was not present when he was riding a tricycle or creeping and seemed to be associated only with weight bearing. During the course of several weeks the hip joints and the spine became painful and his lameness increased. Cervical lymph gland enlargement developed and later subsided. On examination, the spleen was not palpable, the erythrocyte count was 1,980,000 cells per cubic millimeter and the blood contained a high proportion of lymphocytes. Later, the usual symptoms of lymphatic leukemia occurred and the diagnosis was established.

Case 3. (2312.5). A boy, five years of age, had his tonsils removed before coming under observation because of ankle pains believed to be rheumatic. Two weeks after the operation the wrists became painful and a convulsion occurred; the throat had not healed. The patient died four weeks later. At the time of death the spleen and lymph glands were greatly enlarged. The diagnosis of lymphatic leukemia was made at necropsy. This patient's erythrocyte count was above five million cells per cubic millimeter, early in the disease; but before death occurred, had become very low.

Case 4. (M8301). A child, fourteen years of age, five months prior to observation, had complained of rheumatism of the arms and knees. The first arthritic symptoms were of three weeks' duration; later these symptoms recurred from time to time. The patient was taken to a convalescent home where a routine examination of the blood revealed a leukocyte count of 546,000 cells per cubic millimeter. Later, the diagnosis of chronic myelogenous leukemia was established.

Case 5. (M8649). This was a boy, thirteen years of age, whose symptoms had begun six months previously with swelling and pain in one knee. The pain was severe enough to cause him to avoid the use of the leg. Shortly before coming under observation a painful non-pitting swelling had developed on the back of one wrist. A biopsy of a lymph node revealed characteristic findings of malignant lymphoma of the Hodgkin type.

Case 6. (P1647). A boy, five years of age, first complained of pain in a hip, later became cross, irritable and restless and lost weight. The pain increased to such severity as to cause him to cry out. He came under observation with the diagnosis of tuberculosis of the hip. Blood examination showed 2,000,000 erythrocytes per cubic millimeter, and a myelocytosis of 20 per cent. Roent-

genograms of the bones showed areas of lessened density in the metaphyses close to the epiphyseal lines and were suggestive of myelogenous leukemia. The diagnosis of malignant hematopoietic neoplasm of the myeloid type was made from a lymph gland removed by biopsy.

The preceding case reports serve to illustrate the diagnostic difficulties which may arise in cases of malignant lymphoma when the early signs and symptoms simulate those of arthritis, especially when enlargement of the lymph nodes is not evident. Examination of the blood may or may not reveal characteristic changes. The severe anemia usually present in association with the arthritic symptoms is only suggestive. Moderate lymphocytosis occurs in a number of conditions other than malignant lymphoma, especially in childhood, and the findings of increased lymphocytes does not in itself make the diagnosis certain.

Two diagnostic aids are outstanding in their value. One of these is the examination of a lymph node removed by biopsy. The other is the roentgenographic appearance of the bones. The diagnostic importance of bone x-rays has been pointed out by a number of observers. The changes encountered include rarefied areas in the cortex of the long bones, mottled areas with striations in the medullary portions and occasional erosions in distal portions due to marked decalcification. Elevation of the periosteum may be present near the epiphysis.

The cause of the pain in malignant lymphoma is not entirely clear, but it is reasonable to assume that it is associated with infiltrations in or near the joints. Although pain may be present when the parts are at rest, it is much more marked when the affected part is bearing weight.

SUMMARY

Early symptoms of malignant lymphoma may simulate those of arthritis. The arthritic symptoms may continue as the outstanding feature of the disease for several weeks or months.

Early severe anemia often accompanies the arthritic symptoms.

Roentgenograms of bones are valuable aids in diagnosis, while characteristic changes found on examination of a lymph node removed by biopsy are conclusive evidence of malignant lymphoma.

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Iowa Program for Venereal Disease Control

WALTER L. BIERRING, M.D., State Commissioner of Health
Des Moines, Iowa

In accordance with the nationwide campaign against the ever increasing incidence of venereal disease, the Committee on Venereal Disease Control of the Iowa State Medical Society and the State Department of Health*, held a conference in Des Moines on January 17 to formulate a program for Iowa.

The conference approached the problem fully realizing the serious implications involved in a public health program of such magnitude and extent. After thoughtful discussion there was complete unanimity of expression that the two basic objectives in the fight against syphilis, first, case finding, and second, adequate treatment, could be accomplished by cooperative effort without encroaching upon or endangering the interests and welfare of the general practitioner of medicine.

While no accurate statistics are available, it is estimated that there are about 75,000 cases of syphilis and 150,000 cases of gonorrhea in Iowa. In order to facilitate the finding of these cases it was the conclusion of the State Society Committee that statewide free diagnostic laboratory facilities, including dark field microscopic examination of material from fresh lesions, and Wassermann and Kahn serologic tests, would be required. The State Hygienic Laboratory at Iowa City under the direction of Dr. M. E. Barnes, is fully equipped for this service, but in order to meet the greatly increased demands of the new program, an adequate appropriation will be included in the budget requested of the legislature now in session. Later it is expected to establish approved regional laboratories to conduct this service in different sections of the state. The services of such consultant laboratory technicians will be engaged on a part time salary basis. It may also be found expedient in case finding, to develop regional consultant service to aid in the interpretation of certain clinical data.

Prenatal syphilis presents an important problem in case finding, involving as it does, not one patient but two. Whether or not it is practical to obtain blood tests early in every pregnancy, may be questioned; nevertheless the policy is sound. In this field particularly, the private practitioner is an important factor in syphilis control. In approved hospitals with large obstetric services,

most promising opportunities are offered for wider recognition and more effective control of prenatal syphilis.

An essential part of case finding and of statistical study is the proper reporting of all cases of syphilis to the Division of Preventable Diseases, State Department of Health. A copy of the report form approved by the State Society Committee appears in this issue in the section devoted to news from the State Department of Health.

The conference further agreed that the second basic essential, that is, adequate treatment, also requires statewide free distribution of the necessary drugs, such as approved preparations of the arsenicals, bismuth and mercury, to be provided irrespective of the economic status of the patient concerned. Such an innovation may appear as a radical change from previous custom, yet with thoughtful consideration it will be recognized as the most effective method of adequate treatment in every case. It insures completion of the course of treatment, relieves the physician of the annoyance attending the dispensing of drugs, and permits, in most instances, a more adequate remuneration by the patient for professional service rendered. It is proposed to dispense the drugs through local druggists at a carrying charge of ten per cent.

Where the economic status of the patient will not permit the attendance of a private physician, public treatment centers or clinics for venereal disease will be established. At the present time such centers or clinics are located in eleven cities; namely, Burlington, Cedar Rapids, Clinton, Davenport, Des Moines, Dubuque, Iowa City, Keokuk, Ottumwa, Sioux City, and Waterloo.

The State Society Committee in conjunction with the State Department of Health formulated certain general standards governing the approval of public diagnostic and treatment services as to physical equipment, operative procedure and qualifications of professional personnel. It was the general opinion that such services should be a part of polyclinic centers and preferably connected with the outpatient department of an approved hospital. Another feature of the Iowa program will be the development of an adequate follow-up nursing service, which is to be supplied only in accordance with the wishes of the attending physician, or the director of a public treatment center or clinic.

*Committee named by Dr. Prince E. Sawyer, President, is as follows: Gordon F. Harkness, Chairman, William E. Ash, Francis R. Holbrook, P. C. Jeans, Ruben Nomland, L. E. Pierson, E. D. Plass, H. W. Rathe, and L. R. Woodward. The following also attended the conference: Earl B. Bush, Lee Forrest Hill, Robert L. Parker, Fred Moore, E. M. Myers, H. E. Ransom, and A. E. Merkel.

STATE DEPARTMENT OF HEALTH

Walter L. Biering

New Venereal Disease Report Form

As part of the extended program for venereal disease control in Iowa it is desirable that a more comprehensive case report form be adopted. The nature and content of the venereal disease report blank as it appears in this section of the Journal, were discussed in detail at a recent meeting of the Advisory Committee on Venereal Disease Control of the Iowa State Medical Society. The form as printed has been adapted from that of the Illinois State Department of Health, with certain modifications to conform with opinions and suggestions of members of the Advisory Committee, as expressed verbally and later in writing, to the state health commissioner.

Attending physicians will agree that report and record forms should be as concise as possible. At first glance, it may appear that the new venereal disease report form is too detailed. It is believed, however, that once the physician becomes familiar with the several items of information which are desired, he will not regard this form as too comprehensive. For example, no more than a check mark is needed to indicate the nature and stage of the disease being reported. Furthermore, the

physician in completing the report, will have the information which he desires for his own private office record. On the reverse side of the report, the physician may, if he desires, keep record of the various treatments. The "Discontinued Treatment Notice", to appear in the lower left corner of the report form, will, if returned by the physician to the State Department of Health, serve as a means whereby the patient may be returned to the office of the attending physician for further necessary treatment. (The "Physician's Private Office Record" and the "Discontinued Treatment Notice", are printed at the bottom of page 75 in the JOURNAL. In the final printed form, these portions will appear to the left of the "Report of Venereal Disease.")

The success of any program for communicable disease control is dependent in great degree, upon complete reporting. The Iowa State Department of Health enlists the continued interest and support of attending physicians of the state, upon whom so much hinges for the effective completion of an extended and organized effort to control the venereal diseases.

PREVALENCE OF DISEASE

	December 1936	November 1936	December 1935	Most Cases Reported From
Diphtheria	14	19	92	Black Hawk, Dubuque
Scarlet Fever	441	306	694	Woodbury, Polk, Greene
Typhoid Fever	9	16	17	Allamakee
Smallpox	50	19	32	Woodbury, Cherokee, Wapello
Measles	12	11	23	(For State)
Whooping Cough	85	136	66	Black Hawk, Boone
Cerebrospinal Meningitis	8	5	7	Boone
Chickenpox	439	386	545	Dubuque, Black Hawk
Mumps	136	66	914	Grundy, Webster
Poliomyelitis	2	12	10	Jackson, Union
Tuberculosis	54	62	15	(For State)
Undulant Fever	9	9	11	(For State)
Gonorrhea	184	131	138	(For State)
Syphilis	122	110	90	(For State)

REPORT OF VENEREAL DISEASE
IOWA STATE DEPARTMENT OF HEALTH
in cooperation with
UNITED STATES PUBLIC HEALTH SERVICE

101 A

(Please Furnish All
Information Requested)

To be treated as confidential in accordance with Section 2305 Code of Iowa, 1935.

County _____ Date of Report _____ 19____
Patient (either Name or Initials) _____ Date of Birth _____
(Month) (Day) (Year)
Patient's Address _____ Age _____ Sex _____ Color _____ Occupation _____
(City, Town or R. F. D.)
Married, Single, Widowed, Divorced or Separated (State definitely) _____
If Children, Number in Family _____ Under 10 yrs. _____ Over 10 yrs. _____

SYPHILIS	<input type="checkbox"/> PRIMARY	Chancre present.	DATE OF INFECTION		
	<input type="checkbox"/> SECONDARY	Skin, mucous membrane, alopecia.	LABORATORY FINDINGS Neg. Pos. Date		
	<input type="checkbox"/> LATENT	Within four years since infection— with or without clinical symptoms.	Dark Field _____		
	<input type="checkbox"/> LATE	More than four years since infection— with or without clinical symptoms.	Blood: _____		
	<input type="checkbox"/> NEURO	All cases showing neurological evidence or laboratory findings.	Spinal fluid: _____		
	<input type="checkbox"/> PRE-NATAL	All cases infected before birth—with clinical or laboratory evidence.	Wassermann _____ Kahn _____ Globulin _____ Colloidal gold _____		

GONORRHEA	<input type="checkbox"/>	Date of Infection _____	Laboratory Findings	Positive _____	Date _____
	<input type="checkbox"/>	Acute _____		Negative _____	Date _____
	<input type="checkbox"/>	Chronic _____			

CHANCROID	<input type="checkbox"/>	Date of Infection _____	Laboratory Findings	Dark field _____	Date _____
	<input type="checkbox"/>	_____		Wassermann _____	Date _____
	<input type="checkbox"/>	_____		Kahn _____	Date _____

Repeated dark field, Wassermann or Kahn tests are suggested.

GRANULOMA	<input type="checkbox"/>	Date of Infection _____	Laboratory Findings	Leishman _____	Date _____
	<input type="checkbox"/>	Inguinale _____		Donovan bodies _____	Date _____
	<input type="checkbox"/>	Lympho _____		Frei test _____	Date _____

Probable Source of Infection (desirable but optional) _____ Address _____
(Street) (City, Town or R. F. D.)

Is patient indigent? _____
Have you given patient educational material? _____
Is patient under treatment? Yes or No _____ With Whom? Name and Address _____
Is patient in a hospital? Yes or No _____ Name and Location _____
Remarks: (Contacts and other pertinent information) _____
Signature of Physician _____ M. D., Address _____

*Please check in square as indicated

PHYSICIAN'S PRIVATE OFFICE RECORD REPORTED 101 A
CASE OF VENEREAL DISEASE

(TREATMENT RECORD ON REVERSE SIDE)

Date of Report _____ 19____
Patient: Name _____ Date of Birth _____
Address _____
(City, Town or R. F. D.)
Age _____ Sex _____ Color _____
Occupation _____ Date of Infection _____
Name of Employer _____ Address _____
Married, Single, Widowed, Divorced or Separated (State definitely) _____

SYPHILIS	<input type="checkbox"/> Primary	GONORRHEA	<input type="checkbox"/> Acute
	<input type="checkbox"/> Secondary		<input type="checkbox"/> Chronic
	<input type="checkbox"/> Latent		
	<input type="checkbox"/> Late		
	<input type="checkbox"/> Neuro		
<input type="checkbox"/> Pre-natal	CHANCROID	<input type="checkbox"/>	
	GRANULOMA	<input type="checkbox"/>	
		<input type="checkbox"/>	Inguinale
		<input type="checkbox"/>	Lympho

Check in square as indicated.

Source of Infection: Name _____
Address _____
(Street) (City, Town or Township)

DISCONTINUED TREATMENT NOTICE

101 A

County _____ Date _____
Patient: Name _____
Address _____
(Street) (City, Town or R. F. D.)
Date of Infection _____ Disease _____
The above patient has not returned for treatment since _____ 19____
and is still considered infectious.
Laboratory Findings _____
Signed _____ M. D.
Address _____
(Street) (City or Town)

Date of Original Report _____

Return this slip to the Iowa State Department of Health, Des Moines,
Iowa, if patient has not returned for treatment for 10 days and is still
in an infectious stage.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

LEE FORREST HILL, Editor.....Des Moines
RALPH R. SIMMONS, Associate Editor.....Des Moines

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SERUM IN LOBAR PNEUMONIA

Any therapeutic measure which is capable of producing a ten per cent reduction in the mortality rate of a disease as prevalent as lobar pneumonia deserves serious consideration. Experimental evidence from many authoritative sources indicates that the time has now come when it is possible to say that the correct use of pneumococcus antitoxin is a definite life-saving measure. Already six states, Massachusetts, New York, Connecticut, Maryland, Michigan, and recently Minnesota*, have instituted statewide programs of pneumonia control.

Therapeutic serums are available for treatment of Types I, II, V, VII and VIII, which collectively comprise approximately 75 per cent of all pneumococcus pneumonia. Best results are secured when specific serums are used for corresponding types, i. e., Type I serum for Type I pneumonia, etc. Since this is the case, typing of each patient is an essential prerequisite to serum therapy. The development of the Neufeld reaction for the typing of pneumococci has greatly simplified and speeded up this procedure. Essentially the reaction is dependent upon a swelling of the capsule about the organism when its homologous serum is added. In trained hands accurate results are obtainable within a few minutes after a suitable sputum is received. There are now thirty-two recognizable types of pneumococci.

One difficulty in the widespread use of antitoxin is its expense. For the indigent and low income group it becomes nearly prohibitive. It would seem worthwhile for Iowa to look into the matter of pneumonia control for our state. It would be necessary to establish reliable typing centers at strategic points throughout the state, and some ar-

range would have to be made to furnish serum from public funds for those unable to purchase it. In Minnesota a limited amount of federal funds is being diverted for this purpose. This seems to us an admirable use for funds from this source.

Then too, an educational campaign would need to be undertaken, so that people who develop a chill, fever, cough, and rusty sputum would call their physician promptly. To be most effective the serum needs to be given by at least the fourth day of the disease, and preferably earlier. We feel this is a major problem, with promising results, which merits the attention of the medical profession, the State Department of Health, and the various laboratories of the state.

HOSPITAL INSURANCE

With the vast number of plans being devised to promote the public welfare, it is inevitable that proposals for hospital insurance will find their way into the various communities throughout the state. It is very probable that the cooperation and advice of the members of the medical profession will be solicited in such plans. For that reason, it is felt that the readers of the JOURNAL will be interested in a brief resumé of the pertinent facts regarding this subject, which have been secured from the Bureau of Medical Economics of the American Medical Association.

In order to get a clear conception of hospital insurance, it is necessary to differentiate between, first, plans providing hospital services "in kind" as offered by single hospitals, groups of hospitals, or an association acting as an agent for hospitals; and, second, plans providing stipulated cash payments for medical, surgical or hospital care as offered by commercial insurance companies. The first plans are generally known as "Group Hospitalization Plans," the second constitute "Health and Accident" or "Hospital Expense Only" insurance. The fundamental difference between the hospital expense only policy and the group hospital contract is that behind the first is an insurance company offering cash benefits, while behind the second is a hospital offering the use of its facilities.

It is generally agreed that insurance policies which reimburse in cash for hospital or medical expense are of little concern to the medical profession because the benefits paid in money do not generally alter the rendering of medical services nor attempt to organize the practice of medicine on a basis contrary to sound ethical principles. One of the main difficulties with this type of plan is that experienced by the company itself in being able to finance such arrangements. In the past a few large insurance companies have written policies

*Heathman, L. C., McDaniel, O., and Chesley, A. J.: Pneumonia in Minnesota: what can be done about it? Minnesota Med., xx:1-3 (January) 1937.

containing provisions for hospital and medical services but their experience was so unsatisfactory because of inability accurately to predict losses due to sickness and accident, that they withdrew from the field. Many companies offering this type of policy found it necessary continually to revise their rates for hospital and medical services upward until the rates no longer proved attractive enough to sell the policy to a sufficient number of people.

Recently some insurance companies have devised a "Hospital Expense Only" policy, which for a relatively low premium reimburses the policy holder or the hospital for hospitalization expenses incurred under specific restrictions. The Bureau of Medical Economics of the American Medical Association was asked by two companies to examine their policies for this type of insurance. They found that they contained no features which were particularly objectionable, although many of the provisions left room for a difference of opinion. However, they did indicate that if these companies attempted to contract with the hospitals and then sell these services, the entire scheme was changed and all of the problems of contract practice were introduced. They pointed out that if the policy was restricted to a strictly cash basis, the entanglements in the medical field and the evils of contract practice could be avoided.

In regard to group hospitalization plans or non-profit hospital service associations, the Bureau of Medical Economics of the American Medical Association has outlined the following principles as ones which are desirable for such plans:

- "1. The majority of the directors for the hospital service corporations should be chosen from among directors or trustees of hospitals and medical societies. Furthermore, directors of such corporations should serve without salaries, fees, gifts, or considerations of any kind in order to uphold the non-profit character of these new ventures.
2. Hospitals permitted to participate in these plans should be limited to those in the hospital register of the American Medical Association or of the American College of Surgeons. To prevent undesirable competition between hospitals in the same community, it should be provided that all the approved hospitals in the community, with the exception of government hospitals, may be permitted to participate in the plan.
3. There should be a strict definition of what constitutes "hospital service" to preclude the possibility of these corporations providing medical services. The legalization of the corporate practice of medicine would be most undesirable. This definition will not be sim-

ple, since there is considerable difference of opinion as to what are and what are not medical services. If hospital service is limited to include only hospital room accommodations such as bed, board, operating room, medicines, surgical dressings, and general nursing care, the distinction between the hospital service and medical service will be clear. The inclusion of other services (routine medicines, routine laboratory services, anesthesia, etc.) increases the salability of the contracts, but raises the question of hospitals providing medical services. The greatest difficulty with the plan of group hospitalization is the impossibility of limiting the contract benefits to hospital service (facilities) only. The offering of extra benefits usually means that the services of the pathologist, the radiologist, the anesthetist and the physiotherapist are included. It is generally accepted that these services constitute the practice of medicine.

4. There should be more explicit provisions for the supervision of these hospital service corporations by the insurance department. The primary purpose of these laws was to exempt non-profit hospital service corporations from the usual large deposit requirements of the insurance laws, but not to remove all supervision of rates, contract provisions, funds, and reserves which have been found to be advantageous for both buyer and seller of insurance contracts. The Commissioner of Insurance should be given power to revoke the licenses of these corporations to do business. Otherwise he will be unable to prevent fraudulent practices.
5. If these plans are designed to aid persons with limited means to secure hospital services, it is assumed that such services will be rendered at less than regular rates. Accordingly, there should be some income limitation (at the "comfort level" of the community) to exclude those persons able to pay regular rates. If no concession in rates is made for persons with limited means, there may be little justification for insisting on an income limitation."

Undesirable types of corporations selling hospital services will be created unless provisions embodying the principles indicated above are made a part of the plan and are clearly understood by all concerned. At the present time there are scarcely sufficient reasons on which to base a choice between a non-profit hospital service corporation and a mutual assessment insurance company. Which will be the better form of agency to sell a pre-payment plan for hospital facilities will depend largely on the future. If the hospital service corporation is

organized in accordance with the principles outlined above so that it is really non-profit, provides hospital facilities only and is under the necessary supervision of hospital superintendents and physicians, it will be more economical and more desirable. On the other hand, if the non-profit organization is made only a subterfuge for financial gain to hospitals, if medical services are to be continued as benefits, and if lay promoters are to be placed in charge, then an insurance company which pays benefits in cash will be more desirable.

HOME DELIVERIES

Is "home delivery" safer than "hospital delivery?"

Hospitals are especially equipped for carrying out surgical procedures under better conditions than are elsewhere available and with better results. Parturition is essentially surgical and it is to be expected that hospital deliveries would be safer than home deliveries; and yet there is a wide belief that hospital delivery increases the risk to the childbearing woman. Data supporting the latter contention are subject to the criticism that all obstetric deaths occurring in institutions are charged against the hospital even though home care was originally planned and hospitalization was decided upon only after some complication had arisen during pregnancy, labor or the puerperium. If patients in this latter category succumb, the deaths cannot properly be charged against the hospital which functioned only in an emergent capacity.

There is an evident need for more reliable information on these questions, and it is believed that it can be obtained nowhere more easily than in Iowa, where at least two-thirds of all confinements occur in homes and where hospital facilities are available for the entire population in case of real need. Moreover, Iowa physicians have already demonstrated their willingness to cooperate in securing data of this sort.

In view of these considerations, it was determined recently to attempt collection of the necessary information on a scale large enough to make the results dependable. Such a plan necessarily involves the use of questionnaires, which have come to be looked upon as a necessary evil in studies of this character, and the success of the venture depends upon the cooperation of those who offer to assist. As finally decided upon, the project includes the following steps:—

1. Shortly after this issue of the JOURNAL appears, each physician will receive a letter asking his cooperation and enclosing a post card upon which he may indicate his willingness to assist.

2. Upon receipt of the post card indicating the wish to cooperate, questionnaires will be forwarded together with self-addressed stamped envelopes for their return.

3. The data from completed questionnaires will be transferred to punch cards for analysis when sufficient material is in hand.

The questionnaires, which have been developed after consultation with many interested individuals within and without the state, are believed to be adequately comprehensive. They are of such a character that they can be completed easily in ten to fifteen minutes. It is, of course, essential that all available data be included not only on the patients actually delivered at home, but on those who expected to remain at home but for one reason or another were admitted to a hospital. Moreover, there must be some assurance that the series from each individual physician is consecutive so that there will be no suggestion of selection. All information concerning the names of physicians and patients will be held confidential. If 10,000 satisfactory reports can be received, the analysis should be significant and should be accepted, at least as a partial answer to the major question involved. Whenever this number is reached, the cooperating physicians will be notified.

Funds for the study are available in the Maternal and Infant Hygiene appropriation which has been matched from federal funds for Maternal and Infant Welfare under the control of the State Department of Health. The project has been approved by the Committee on Child Health and Protection of the Iowa State Medical Society, and should receive the support of those physicians who conduct home deliveries and who are interested in a correct evaluation of the problems involved.

E. D. Plass, M. D.

NORTHWEST MEDICAL CONFERENCE

As a constituent part of the Northwest Medical Conference since its conception some seven years ago, many of the members of the Iowa State Medical Society are familiar with the programs and the aims of this conference, which meets annually. To those who are not, it may be stated briefly that this meeting had its inception as a result of the desires of the officers of the state medical societies in the several northwestern states to meet and discuss problems of mutual interest to the medical profession in this section of the United States. Particular attention has been devoted to the discussion of medical ethics and economics. The group has been enlarged to include the medical societies in the states of Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, North Dakota, Colorado,

Wyoming and Montana. The officers and all of the members of these societies are privileged to attend these conferences.

The 1937 meeting of the Northwest Medical Conference will be held at the Palmer House in Chicago on Sunday, February 14. Through the efforts of the officers—Wm. F. Braasch, M. D., Rochester, Minnesota, President; Fred Moore, M. D., Des Moines, Secretary; and Robert L. Parker, M. D., Des Moines, Acting Secretary—the following program has been arranged:

8:00 a. m.—Breakfast

Informal Discussion. Questions to be written and handed in; assigned to individuals for discussion.

Election of Nominating Committee

Morning Program

9:30 a. m.

President W. F. Braasch, M. D., Rochester, Minnesota, presiding

Postgraduate and Economic Education

Symposium on Postgraduate Education:

- 9:30 Report of Survey—R. L. Sensenich, M. D., South Bend, Ind.
- 9:50 University Courses—Harold S. Diehl, M. D., Dean, University of Minnesota Medical School, Minneapolis, Minnesota.
- 10:00 Refresher Courses—M. H. Rees, M. D., Dean, University of Colorado School of Medicine, Denver, Colorado.
- 10:10 Formal Local Courses—S. D. Maiden, M. D., Council Bluffs, Iowa.
- 10:20 Interstate Postgraduate Courses—Jas. D. McCarthy, M. D., Omaha, Nebraska.
- 10:30 Clinic Courses—Herman H. Riecker, M. D., Ann Arbor, University of Michigan.
- 10:40 Discussion led by Ralph R. Wilson, M. D., Kansas City; M. C. Smith, Executive Secretary, Nebraska State Medical Society, Curtis, Nebraska.

Symposium on Medical Economics:

- 10:55 Economic Education—E. J. Carey, M. D., Dean, Marquette University School of Medicine, Milwaukee, Wisconsin.
- 11:15 Economic Education of the Medical Student—Wm. J. Burns, Executive Secretary, Michigan State Medical Society, Lansing, Michigan.
- 11:25 Economic Education of the Doctor—E. S. Hamilton, M. D., Kankakee, Illinois.
- 11:35 Discussion led by C. F. Kemper, M.D., Denver, Colorado; T. F. Thornton, M. D., Waterloo, Iowa.
- 11:50 Greetings from the American Medical Association—Olin West, M. D., Secretary, Chicago, Illinois.

12:05 Hospital and Health Insurance—James L. Smith, M. D., Peoria, Illinois.

12:20 Discussion led by John R. Neal, M. D., Springfield, Illinois; Carl F. Vohs, M. D., St. Louis, Missouri; T. A. Hendricks, Executive Secretary, Indiana State Medical Society, Indianapolis, Indiana.

Luncheon

12:30 noon

Guests of the Iowa State Medical Society

Remarks by President W. F. Braasch

Election of Officers for 1938

Afternoon Program

2:00 p. m.

Symposium on Social Security Activities:

- 2:00 Survey of Activities of State Governments and State Medical Societies—Chas S. Nelson, Executive Secretary, Ohio State Medical Society, Columbus, Ohio.
- 2:30 Maternal and Child Welfare—Alfred W. Adson, M. D., Mayo Clinic, Rochester, Minn.
- 2:45 Public Health Services (Resettlement Administration)—A. D. McCannel, M. D., Minot, North Dakota.
- 3:00 Discussion led by S. E. Gavin, M. D., Fond du Lac, Wisconsin.
- 3:30 Venereal Disease Program—Arthur D. Gray, M. D., Topeka, Kansas.
- 3:45 Discussion led by Paul A. O'Leary, M. D., Rochester, Minnesota; Earl Whedon, M. D., Sheridan, Wyoming.
- 4:00 State Boards of Health—Frank Jirka, M. D., Director of Public Health, Springfield, Ill.
- 4:15 Discussion led by Philip Kreuscher, M. D., Chicago, Illinois; J. F. D. Cook, M. D., Langford, South Dakota.

Since Chicago seems to be the most central meeting place for this annual conference, it has been agreed that the sessions will be held there each year, but that the various state societies will take turns in assuming the rôle of host to the conference. For the 1937 session, the Iowa State Medical Society has the honor to be the host. It is to be hoped that the members will respond to this honor and that our delegation to Chicago will be the largest in attendance. The subjects to be discussed are so timely and the speakers so well qualified to contribute experience and information of value, that undoubtedly an unusually large number of Iowa physicians will make it a point to be in Chicago on February 14.

IOWA PROGRAM FOR VENEREAL DISEASE CONTROL

(Continued from page 73)

One of the important essentials in a venereal disease control program is a more widespread distribution of our present knowledge of these diseases, their recognition, and adequate treatment. Special facilities should be provided for the further training of physicians through the medium of approved control clinics and local regional institutes. Of even greater import is the full co-operation of the public. Now that the subject has been brought out into the open, every opportunity and avenue of publicity should be utilized to teach the "facts of syphilis" to all the people.

The problem as it exists today is a tremendous one, yet we approach the fight better prepared than ever before. The provisions of the Social Security Act have made federal funds available to Iowa to supplement state and local funds, the total sum to be used to help eradicate syphilis in this state. With the approval of the State Society Committee the State Department of Health announces the following plan to inaugurate the fight against syphilis in Iowa:

1. Beginning February 1, 1937, and after due report has been made of an acute infectious case of syphilis, the minimum of twenty (20) doses each* of approved arsenicals and bismuth preparations, to render the patient non-infectious, will be furnished free upon request of the attending physician.

2. Pending favorable legislative action for adequate appropriation to carry on this program, it is expected by April 1, 1937, to institute statewide free laboratory diagnostic service.

3. After July 1, 1937, it will be possible to provide drugs required for adequate treatment of all cases of syphilis, irrespective of economic status, without cost, upon request of the attending physician.

4. The distribution of all anti-syphilitic drugs will be made through local druggists on a carry-charge of ten per cent.

Representative leadership in the State Medical Society has met the challenge of venereal disease control in Iowa with characteristic wisdom and courage. It is confidently hoped that this action will receive the full endorsement of the entire membership.

*Recommendation of Clinical Cooperative Groups, U. S. Public Health Service.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS

Meeting of Board of Trustees

January 20, 1937, State Society Office

Roll Call: All members of the Board were present. Others in attendance were: D. J. Glomset, Des Moines, Chairman of the Speakers Bureau Committee; Robert L. Parker, Des Moines, Secretary; Harold J. McCoy, Des Moines, Treasurer; Lee F. Hill, Des Moines, Editor; Fred Moore, Des Moines, Chairman of Committee on Public Policy and Legislation.

Transactions: 1. Acknowledgment of receipt of the completed audit of 1936 books from Widdup and Company. Audit accepted for study by members of the Board. 2. Lease for rental of State Society headquarters renewed for a five year period at same rental; signed by Board. 3. Discussion and adjustment of budget for 1937 activities. 4. The Editor asked the advice of the Board regarding the publication of articles on medical economics in the JOURNAL. Board approved this suggestion; recommended that the Editor use his own judgment in regard to the type and number of such editorials to be used. 5. The Secretary asked that the Executive Secretary's expenses to the meeting of the Northwest Medical Conference be allowed. Approved by the Board. 6. Report from the Chairman of the Medico-Legal Committee, through the Executive Secretary, to the effect that the Committee was to meet soon to discuss the matter of the selection of an attorney or attorneys to handle medical legal defense work for members of the Society; the recommendation would be made to the Board of Trustees. 7. Discussion of variation in payment of traveling expenses of members incurred in transacting business for the State Society. The Board ruled that henceforth the same schedule would apply to all: mileage, at the rate of five cents per mile and actual expenses, such as hotel, meals, etc. In addition those making trips for the Society and wishing to hire drivers could allow such drivers \$2.00 per day plus reasonable expenses for meals and hotel, when required. 8. Report of Treasurer. Board instructed the Treasurer to secure \$5,000 additional bonds the middle of March. 9. Practice of groups of the Society charging expense accounts to Society to be paid by the Society direct was deprecated. Motion made and carried that members incurring expenses in their line of duties for the Society should take care of his own expenses, then submit his expense account to the Society and be reimbursed. 10. Report of the Chairman of the Committee on Public Policy and Legislation regarding present and proposed legislative activities during the present Assembly.

Meeting of the Committee on Medical Economics January 21, 1937, State Society Office

Roll Call: The members of the Committee who were present were: T. F. Thornton, Waterloo, Chairman; James C. Donahue, Centerville; M. C. Hennessy, Council Bluffs; A. C. Moerke, Burlington. Dr. James

C. Hill of Newton was the only member unable to be present. Others in attendance were: Prince E. Sawyer, Sioux City, President; Robert L. Parker, Des Moines, Secretary; J. F. Aldrich, F. H. Clark and F. K. Burnett of the Page County Medical Society; R. A. Becker and Wm. S. Greenleaf of the Cass County Medical Society; J. N. Goodman of the Clarke County Medical Society; E. E. Shaw of the Warren County Medical Society; O. N. Glesne of the Webster County Medical Society; and T. C. Denny, Des Moines, Medical Director of the Iowa Emergency Relief Administration.

Transactions: 1. Emergency medical relief. The meeting was called primarily as a result of a letter to the officers of the State Society and to the Medical Economics Committee from the Page County Medical Society, sending a copy of a resolution passed by that county condemning the set-up of the emergency medical relief plan and asking that steps be taken by the Society to remedy the situation. Members of several counties, some having similar unsatisfactory experience and some having satisfactory experience with this plan, had been called in for the conference. Main points of criticism against the plan brought out in the discussion were regarding the cuts made in fees after they had been audited by the committee in the county to conform with minimum schedules set out in the plan, and the fact that the allotment made to the counties for medical relief was not accumulative. Warren County reported favorable experience, due to the fact that they had an efficient relief worker and, being a small county, came under the minimum allotment of funds, approximating \$2.00 per relief case. Dr. Denny explained that he felt the reason for so much recent complaint of cuts was due to the fact that although WPA workers were not included in relief load and allotment made to the county for medical relief for them, still when they required medical care, the funds came out of the allotment for those on relief. He said he was recommending additional appropriation for medical care for WPA workers and that he felt this would do away with much of the present dissatisfaction. At the end of the discussion the Committee decided to interview the State Relief Committee at its January 30 meeting and recommend that instead of the present allotment of \$1.50 per relief case for medical care per month, the allotment be \$2.00 per case, which, representing 4.5 people, would probably make it possible for the minimum fees set out in the plan to be paid. They would also recommend that the medical relief fund be made accumulative so that the months when medical care was slight would make up for those months when the medical relief load was very heavy. 2. Review of the correspondence regarding the A. P. Stevens and Associates collection agency, which had applied for approval. Committee voted not to extend its approval. 3. Discussion of the Marathon Finance Company. Outline of its program in Iowa given by their representative. Explanation of their position with relation to the Wisconsin State Medical Association, who disapproved their plan of operation. Since no

members of the Iowa State Medical Society using their services have had undesirable experience, the Committee voted to renew its approval of the company. Committee also voted to approve the company posting a bond to the State Society of \$25,000.00. The suggestion was first made by a county society and agreed to by the company as evidence of its good faith toward members of the Iowa State Medical Society. 4. Discussion of hospital insurance plans and bills. Approved proposed bill of the Iowa Hospital Association authorizing formation of non-profit hospital insurance service, provided it was passed upon by legal counsel and that the term "hospital service" was well defined so as to exclude all medical service. 5. Discussion of proposed amendment to Workmen's Compensation Law. Committee moved to approve this amendment if legal advice showed that it in no way jeopardized the interests of the medical profession. 6. Discussion of proposed bill of opticians and morticians. Approved subject to approval of Legislative Committee. 7. Discussion of suggestion of the Council that the Medical Economics Committee study plans of medical care for low income group.

Special Meeting

Medical Economics Committee

Dr. A. C. Moerke and Dr. T. F. Thornton met on January 30 with the State Relief Committee and made the suggestions agreed upon at full committee meeting. Dr. Denny said he realized medical relief funds could not be made accumulative; made his suggestion relative to additional allotment of funds for medical care for WPA workers. State Relief Committee approved Dr. Denny's suggestion.

LEGISLATIVE ACTIVITIES

Under date of January 25, Legislative Bulletin Number 1 was sent to secretaries and deputy councilors of all county medical societies and to the officers of the State Society. It is planned to issue these bulletins periodically as legislative developments of interest to the members of the medical profession arise. These bulletins will be numbered consecutively and it is most essential that they be preserved for the files of the county medical society, because subsequent bulletins will refer to matters discussed in previous issues and the members of the societies will wish to have all issues on hand for more complete information.

The Legislative Committee is depending upon deputy councilors and county society secretaries to keep the members of the county societies informed and in action. The Committee is also depending upon the cooperation of the individual members with their deputy councilors and secretaries. It should be their responsibility and interest with these county society officers to keep themselves advised of legislative activities of direct interest to their profession. It is to be remembered that the effect of the legislative efforts of the State Society are dependent primarily upon the interest, activity and expression of the members of the component county societies.

SPEAKERS BUREAU ACTIVITIES

"REFRESHER" COURSES

Through the kindness and cooperation of the faculty of the College of Medicine of the State University of Iowa, the Iowa Pediatric Club, the Central Association of Obstetricians and Gynecologists, and the State Department of Health, the Speakers Bureau will present six "refresher" courses starting about March first. There will be eight two-hour lectures, four on pediatrics, and four on obstetrics. The fee will be \$1.00 only, which is to cover the cost of mimeographing notes of the lectures for distribution to those attending.

To facilitate matters, there will be two circuits of three centers each. These, with the starting dates, are given below:

East Circuit (Starting March 2)		West Circuit (Starting March 9)	
Osceola	Tuesdays	Panora	Tuesdays
Centerville	Wednesdays	Denison	Wednesdays
Keokuk	Thursdays	Red Oak	Thursdays

Letters containing full information will be sent soon to physicians in the vicinity of these centers. All physicians are eligible to register, and are urged to do so. Nurses and assistants are also eligible, and are invited to attend.

The general outline of the course is given below.

- Recent Therapy in Communicable Diseases
East Circuit—James Dunn, M.D., Davenport
West Circuit—Dennis H. Kelly, M.D., Des Moines
- Nutrition in Infants and Children
East Circuit—J. D. Boyd, M.D., Iowa City
West Circuit—P. C. Jeans, M.D., Iowa City
- Part 1—Examination of Child—Demonstration
East Circuit—Fred Moore, M.D., Des Moines
West Circuit—R. H. McBride, M.D., Sioux City
Part 2—Demonstration of Serologic Tests
Both Circuits—J. M. Hayek, M.D., State Department of Health
Part 3—Dental Hygiene
Both Circuits—O. E. Hoffman, D.D.S., State Department of Health
- Diseases of the Urinary System in Infants and Children
East Circuit—R. O. Hughes, M.D., Ottumwa
West Circuit—Roland Stahr, M.D., Fort Dodge
- Contraception and Sterilization
Sterility
Management of Normal Pregnancy
East Circuit—E. D. Plass, M.D., Iowa City, or assistants
West Circuit—R. E. Crowder, M.D., Sioux City
- Minor Ailments of Pregnancy
Toxemias of Pregnancy
East Circuit—Howard A. Weis, M.D., Davenport
West Circuit—E. D. Plass, M.D., Iowa City, or assistants

7. Abortion

Puerperal and Postabortal Infections

East Circuit—Roy I. Theisen, M.D., Dubuque

West Circuit—E. D. Plass, M.D., Iowa City, or assistants

8. Obstetric Hemorrhage

Induction of Labor

East Circuit—E. D. Plass, M.D., Iowa City, or assistants

West Circuit—C. V. Edwards, M.D., Council Bluffs

POSTGRADUATE COURSES General Therapeutics

The Speakers Bureau will conduct three of its regular extension courses in general therapeutics this spring, starting about the first of March. They will be held in Ames, Fort Dodge, and Mason City. Tentative outlines are given below, and letters will be sent out later with full information as to dates, meeting places, and hours. These courses should not be confused with the "refresher" courses which are financed by federal funds. The fee for each of these courses will be \$10.00. Every effort has been made to stress the subjects which are of vital interest to the general practitioner, and to procure the best teachers available. For further information, communicate with the secretary listed at each center, or write the Speakers Bureau.

Mason City, Iowa

H. W. Morgan, M.D., Secretary
Tuesdays

- Diagnosis and Treatment of Bright's Disease
E. T. Bell, M.D., Minneapolis
- Endocrine Therapy of Today
E. L. Sevringhaus, M.D., Madison
- Radiotherapy A. U. Desjardins, M.D., Rochester
- Diagnosis and Treatment of Neurasthenia
William Malamud, M.D., Iowa City
- Diagnosis and Treatment of Urinary Infections in Children
H. F. Helmholtz, M.D., Rochester
- General Treatment of Skin Disorders
Oliver S. Ormsby, M.D., Chicago*
- Modern Management of Fractures
Robert D. Schrock, M.D., Omaha
- Modern Principles of Surgery
L. R. Dragstedt, M.D., Chicago

Ames, Iowa

E. B. Bush, M.D., Secretary
Thursdays

- General Treatment of Skin Disorders
S. W. Becker, M.D., Chicago
- Recent Advances in Therapeutics
E. M. K. Geiling, M.D., Chicago
- Present Status of Endocrine Therapy
Arno B. Luckhardt, M.D., Chicago
- Modern Treatment of Syphilis
Paul A. O'Leary, M.D., Rochester
- Diets in the Treatment of Disease
Clifford Barborka, M.D., Chicago

* Tentative

6. Diagnosis and Treatment of Common Neurologic Lesions Paul C. Bucy, M.D., Chicago
7. Modern Cardiac Therapy F. A. Willius, M.D., Rochester
8. Roentgenologic Diagnosis B. R. Kirklin, M.D., Rochester

Fort Dodge, Iowa

H. T. Larsen, M.D., Secretary

Fridays

1. Some Phase of Obstetrics E. D. Plass, M.D., Iowa City
2. Recent Advances in Therapeutics E. M. K. Geiling, M.D., Chicago
3. Treatment of Gastro-intestinal Disorders Walter L. Palmer, M.D., Chicago*
4. Modern Treatment of Syphilis Paul A. O'Leary, M.D., Rochester
5. Present Status of Endocrine Therapy Arno B. Luckhardt, M.D., Chicago
6. Diagnosis and Treatment of Common Neurologic Lesions Paul C. Bucy, M.D., Chicago
7. Modern Cardiac Therapy F. A. Willius, M.D., Rochester
8. General Treatment of Skin Disorders S. W. Becker, M.D., Chicago

*Tentative

LECTURES FOR SOCIAL SERVICE WORKERS

Early in November the Speakers Bureau was approached by the Director of Medical Relief of the Iowa Emergency Relief Administration, who asked if it would be possible to present a series of lectures on medicine to the workers of the south-central district. The thought behind the request was that through a better understanding of various diseases, the relief workers would be able to care more intelligently for the persons in their charge, and might better be able to understand the doctor's viewpoint.

As a result of this conference, a series of six lectures was given at Osceola, over which the relief workers were very enthusiastic. The subjects covered were cancer, diabetes, orthopedics, obstetrics and gynecology, tuberculosis, and medical ethics. This series was so successful that a similar series was requested at Iowa City for that district. Lectures here were given on the degenerative diseases, upper respiratory infections, venereal diseases, medical ethics, obstetrics and gynecology, and metabolic diseases. This course also was considered a decided success.

A third series of such talks is now being planned for the Polk County workers, of whom there are about seventy. Thirteen talks have been scheduled, on the following subjects: medical ethics, fractures, venereal diseases, diabetes, tuberculosis, cancer, heart disease, anemia, care of pregnant women, high blood pressure, surgical emergencies, and the question of hospitalization.

LECTURES TO UNIVERSITY STUDENTS

In addition to the series of lectures which have been scheduled for Grinnell College, as announced in the November JOURNAL, the Speakers Bureau is presenting a weekly lecture at Drake University during the second semester, for which students will be allowed one hour's credit. Speakers and subjects definitely scheduled are as follows:

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| February 9 | The Doctor | W. L. Bierring, M.D. |
| February 16 | American Medicine—Its History and Achievements | Fred Sternagel, M.D. |
| February 23 | Physiology of Circulation | C. B. Luginbuhl, M. D. |
| March 2 | Physiology of Digestion | H. C. Bone, M.D. |
| March 9 | Physiology of the Muscular System | L. M. Overton, M.D. |
| March 16 | Physiology of Elimination | W. R. Hornaday, M.D. |
| March 23 | Physiology of the Endocrine Glands | E. B. Winnett, M.D. |
| March 30 | Human Metabolism | John C. Parsons, M.D. |
| April 6 | Physiology of the Nervous System | Frank A. Ely, M.D. |
| April 13 | Physiology of Reproduction | D. J. Glomset, M.D. |
| April 20 | Infection and Immunity, Part I | Julius S. Weingart, M.D. |
| April 27 | Infection and Immunity, Part II | Julius S. Weingart, M.D. |
| May 4 | Medical Science in the Service of Health | Fred Moore, M.D. |
| May 11 | To be announced | |
| May 18 | To be announced | |
| May 25 | To be announced | |

Upper Iowa University at Fayette has asked for twelve lectures on these or similar subjects, and plans are now being made for this series. Announcements of the dates and speakers will be made in the March JOURNAL.

RADIO SCHEDULE

WOI—Fridays at 4:00 p. m.

WSUI—Wednesdays at 3:30 p. m.

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| February 5 | Venereal Disease—Carl F. Jordan, M. D. |
| February 12 | Anesthesia—E. P. Lovejoy, M.D. |
| February 19 | Romances of American Medicine—The Discovery of Insulin—E. B. Winnett, M.D. |
| February 26 | The Treatment of Cardiac Neuroses—H. W. Rathe, M.D. |

WOMAN'S AUXILIARY NEWS

Edited by the Press and Publicity Committee

MRS. DEAN W. HARMAN, *Chairman*, Glenwood, Iowa

HEALTH ESSAY CONTEST

The Woman's Auxiliary to the Iowa State Medical Society, and the Speakers Bureau of the Iowa State Medical Society are sponsoring the Fourth Annual Health Essay Contest. The purpose of the sponsors of this contest is to aid in promoting a nationwide program of health education and to stimulate interest in this important subject among high school students of the state of Iowa. Selected as the subject for the 1937 contest is "The Importance of Good Vision", and the sponsors suggest that the following points be given special attention:

- A. Care of the eyes and their value
 1. Valuable as an instrument of learning
 2. Necessity for protection against injury and disease
- B. The use of eyeglasses
 1. History of eyeglasses
 2. Value of eyeglasses in the development of the child, in relieving eyestrain, and as a necessity for vision in old age

The contest opened February 1, and will close March 15, at which time all essays must be in the hands of the chairman of the contest committee, Mrs. W. A. Seidler of Jamaica, Iowa. Any high school student in the state may participate in this contest, and the length of the essays is not to exceed 1,200 words. Prizes will be awarded as follows: first prize, \$20.00; second prize, \$10.00; third prize, \$5.00; and ten one dollar prizes to the next ten highest ranking essays. An additional prize to the winner of first place, is a trip to a centrally located broadcasting station to present the winning essay over the radio. Schools whose essays win first, second and third place, will be given a year's subscription to *Hygeia*.

The four best essays from each school may be submitted. They should be typewritten, on one side of the sheet, double spaced. The student's name should not appear anywhere on the essay, but should be attached on a separate sheet of paper, together with the town, county, grade, and superintendent's name. Each essay received will be given a number, and no judge shall know to which student that number has been assigned. Preliminary elimination will be made by members of the Woman's Auxiliary. The final judges shall be composed of the following:

1. A member of the State Department of Public Instruction
2. A member of the State Department of Health
3. A member of the Iowa State Medical Society

4. Two members of the Woman's Auxiliary to the Iowa State Medical Society

Essays will be judged on the basis of originality, composition, and evidence of study. Direct quotations must be indicated. Announcement of the winners will be made on April 1, 1937. Further information may be secured from the superintendents or English teachers of the various high schools, or from Mrs. W. A. Seidler of Jamaica, Iowa.

Muscatine County

The Woman's Auxiliary to the Muscatine County Medical Society sponsored a dinner for the doctors, wives and friends of the society in the Japanese Room of the Hotel Muscatine. Captain Blair, whose boat The Helen Blair, took many an excursion party down the Mississippi in years past, was the guest speaker. Mr. Blair, who is now seventy-five years of age, gave an interesting talk on steamboating and rafting on the Mississippi, and showed slides depicting scenes along the river. Attractive table decorations carried out the ship motif. Boat models made by local Sea Scouts were set on blue mirror seas in the center of each of the three tables. Small blue sail boats with white sails were filled with candy life-savers at each plate. Covers were laid for thirty physicians, wives and guests. Newcomers who were special guests included Dr. Temple M. Miller and Dr. and Mrs. Walter Norem. Mrs. C. P. Phillips, president of the organization, gave a short talk, and Mrs. P. M. Jessup, program chairman, also spoke briefly.

NEWS FROM THE NATIONAL AUXILIARY

Mrs. J. P. Simonds, chairman of the press and publicity committee of the national organization, announces that beginning January 2, 1937, the national auxiliary will be given space each week in the *Journal of the American Medical Association*, in the section devoted to The Bulletin. The Board of Trustees and the officials of the association have extended this courtesy to the auxiliary because of the usefulness of its service to the medical profession. The *Journal of the American Medical Association* has a weekly circulation of approximately 100,000 copies, and it is very desirous that our state and county societies have their share of publicity in this new field. Will auxiliaries who have not already done so, please send news items of interest to your state chairman of press and publicity?

SOCIETY PROCEEDINGS

Black Hawk County

Ruben Nomland, M.D., of the State University of Iowa, College of Medicine, was the speaker of the evening when members of the Black Hawk County Medical Society convened in Waterloo, Tuesday, January 19. Dr. Nomland spoke on Common Diseases of the Skin.

Calhoun County Annual Meeting

Officers elected at the annual meeting of the Calhoun County Medical Society held in Rockwell City, Tuesday, January 19, are: Dr. P. W. Van Metre of Rockwell City, president; Dr. F. W. Hobart of Lake City, vice president; Dr. H. H. Harris of Rockwell City, secretary and treasurer; Dr. R. G. Henrichs of Manson, delegate; and Dr. Van Metre, alternate delegate.

Cass County Annual Meeting

The Cass County Medical Society held its annual meeting Friday, January 15, at the Hotel Whitney in Atlantic. More than forty members and guests assembled to hear the following program which was presented by three physicians from Omaha: New Knowledge in Treatment of Anemia, John Sharp, M.D., instructor in medicine, University of Nebraska; Radiation Therapy in Squamous Cell Carcinoma, Howard Hunt, M.D., professor of radiology, University of Nebraska; and Diabetic Complications: The Use of Protamine Insulin, Frank Conlin, M.D., professor of medicine, University of Nebraska. The results of the annual election were as follows: Dr. Agnes Wilder of Atlantic, president; Dr. James Maynard of Adair, vice president; and Dr. R. L. Barnett of Atlantic, secretary and treasurer.

R. L. Barnett, M.D., Secretary

Cerro Gordo County

The regular meeting of the Cerro Gordo County Medical Society was held Tuesday, January 12, at the Hotel Hanford in Mason City, with Russell Wilder, M.D., of the Mayo Clinic, as the speaker of the evening. Dr. Wilder discussed his experiences with the new protamine insulin in the treatment of diabetes. Another feature of the evening's program was a talk by C. M. Franchere, M.D., of Mason City, on the immunization campaign which is being conducted by the county medical society.

H. W. Morgan, M.D., Secretary

Cherokee County Annual Meeting

E. D. Lovett, M.D., of Cherokee, presented a discussion of Treatment of Neurosyphilis, as the scientific program for members of the Cherokee County

Medical Society, when that organization met in annual session Monday, January 18, in Cherokee. Officers elected during the business session include: Dr. C. E. Broderick of Cherokee, president; Dr. C. W. Ihle of Cleghorn, vice president; Dr. E. D. Lovett of Cherokee, secretary and treasurer; and Dr. C. F. Obermann of Cherokee, delegate.

R. P. Noble, M.D., Secretary

Clarke County Annual Meeting

Officers elected at the annual meeting of the Clarke County Medical Society held in Osceola, Monday, January 25, at the Shively Sanitarium, are: Dr. J. D. Shively of Osceola, president; Dr. H. E. Stroy of Osceola, vice president; Dr. J. N. Goodman of Osceola, secretary and treasurer; Dr. C. R. Harken of Osceola, delegate; and Dr. F. S. Bowen of Woodburn, alternate delegate.

J. N. Goodman, M.D., Secretary

Clay County Annual Meeting

The Clay County Medical Society held its annual meeting Wednesday, January 27, at the Hotel Tangney in Spencer. After a general round table discussion of ways and means of caring for the medical needs of the indigent in the county, a business session was held and the following officers were elected to serve during 1937: Dr. C. C. Jones of Spencer, president; Dr. C. S. Van Ness of Peterson, vice president; Dr. C. C. Collester of Spencer, secretary and treasurer; Dr. E. E. Munger, Sr., of Spencer, delegate; and Dr. D. H. King of Spencer, alternate delegate.

C. C. Collester, Secretary

Dallas-Guthrie Society

The regular meeting of the Dallas-Guthrie Medical Society was held in the Rotary Club Rooms in Adel, Thursday, January 21, with Henry E. Kleinberg, M.D., of Des Moines, furnishing the scientific section of the program. Dr. Kleinberg spoke on The Causes and Treatment of Vaginal Discharges.

S. J. Brown, M.D., Secretary

Floyd County Annual Meeting

A. E. Brown, M.D., of the Mayo Foundation, Rochester, was guest speaker for the Floyd County Medical Society at its meeting held in Charles City, Tuesday, January 26. Dr. Brown presented an address on Pneumonia and Its Treatment. Newly elected officers for the society are: Dr. F. H. Fillenwarth of Charles City, president; Dr. R. A. Fox of Charles City, vice president; Dr. H. A. Tolliver of Charles City, secretary and treasurer; Dr. Fox, delegate; and Dr. Fillenwarth, alternate delegate.

H. A. Tolliver, M.D., Secretary

Hamilton County

The Hamilton County Medical Society held its regular monthly meeting Tuesday, January 12, at the Willson Hotel in Webster City. John C. Shrader, M.D., of Fort Dodge, addressed the group on Coronary Sclerosis and Thrombosis.

D. W. James, M.D., Secretary

Hancock-Winnebago Society

The annual meeting of the Hancock-Winnebago Medical Society was held in Forest City at the Hawks Hotel, Tuesday, January 19. After the six-thirty dinner, Harold W. Morgan, M.D., of Mason City, delivered an address on X-Ray Therapy for the General Practitioner. Officers elected at the business session are: Dr. T. J. Irish of Forest City, president; Dr. A. L. Judd of Kanawha, vice president; Dr. W. F. Missman of Klemme, secretary and treasurer; Dr. A. J. Peterson of Forest City, delegate; and Dr. David F. Shaw of Britt, alternate delegate. After a general discussion of the advisability of establishing a county district health unit under the Social Security Act, the society voted to suspend plans for an organization pending more thorough investigation.

W. F. Missman, M.D., Secretary

Hardin County

Edwin Cobb, M.D., of Marshalltown, furnished the scientific program for members of the Hardin County Medical Society at their meeting held in Eldora at the Winchester Hotel, Friday, January 29. Dr. Cobb discussed Management of Sinus Infections.

W. E. Marsh, M.D., Secretary

Henry County

The Henry County Medical Society met at the Harlan Hotel in Mt. Pleasant, Friday, January 22, for a dinner session, after which the following scientific papers were presented: Pediatrics, L. M. Downing, M.D., of Cedar Rapids; and Headaches, R. J. Stephen, M.D., also of Cedar Rapids.

Johnson County

The January meeting of the Johnson County Medical Society was held at the University Hospital, Wednesday evening, January 6. The scientific program was as follows: Pavaex Treatment; case history, demonstration, and evaluation of the results obtained, A. E. Feller, M.D.; Respirator, case history and demonstration of the machine, S. F. Hampton, M.D.; Artificial Fever Therapy; demonstration of the equipment and evaluation of the results in neurologic cases, A. L. Sahs, M.D.

W. M. Fowler, M.D., Secretary

Kossuth County Annual Meeting

Officers elected at the annual meeting of the Kossuth County Medical Society held Friday, January 22, at the Kossuth Hospital in Algona, are: Dr. J.

A. Mueller of Fenton, president; Dr. R. M. Minkle of Swea City, vice president; Dr. John N. Kenefick of Algona, secretary and treasurer; Dr. C. H. Cretz-meyer of Algona, delegate; and Dr. M. G. Bourne of Algona, alternate delegate.

J. N. Kenefick, M.D., Secretary

Linn County

The next meeting of the Linn County Medical Society will be held in Cedar Rapids, Thursday, February 11, with Clarence Van Epps, M.D., professor of neurology, State University of Iowa, College of Medicine, as guest speaker. Dr. Van Epps and his staff will present a clinic in neurology. The second part of the evening's program will be given by H. O. Young, M.D., of Marion, who will review the work done in the Linn County Home during the past several years.

T. F. Hersch, M.D., Chairman
Program Committee

Lucas County Annual Meeting

The following officers were elected to serve the Lucas County Medical Society during 1937, at a meeting held in Chariton, Thursday, January 14: Dr. Scott Lazear Throckmorton of Chariton, president; Dr. W. C. Fisher of Williamson, vice president; Dr. J. B. Robb of Chariton, secretary and treasurer; Dr. Throckmorton, delegate; and Dr. C. L. Brittell of Chariton, alternate delegate.

H. D. Jarvis, M.D., Secretary

Marshall County

Two physicians from Des Moines furnished the scientific program for the Marshall County Medical Society when that organization met in Marshalltown, Tuesday, January 5. Verl A. Ruth, M.D., spoke on Fractures of the Shaft of the Femur; and William R. Hornaday, M.D., discussed Common Urologic Problems of the General Practitioner.

Polk County

The annual meeting of the Des Moines Academy of Medicine and Polk County Medical Society was held Tuesday, January 26. After the six-thirty dinner, a diversified program of official reports and social entertainment was presented. The election of officers resulted as follows: Dr. O. W. King, president-elect; Dr. N. Boyd Anderson, secretary and treasurer; Drs. N. Boyd Anderson, W. E. Baker, Lee Forrest Hill, Clifford W. Losh, and Fred Moore, delegates; and Drs. Harry A. Collins, Daniel F. Crowley, James A. Downing, John Russell, and John B. Synhorst, alternate delegates. At this meeting Dr. Walter E. Baker, elected last year, assumed the presidency of the group.

Scott County

Raymond W. McNealy, M.D., of Chicago, associate professor of surgery at Northwestern University Medical School, was the guest of the Scott County

Medical Society at a meeting held in Davenport, Tuesday, January 5. Dr. McNealy spoke on Post-operative Complications Occurring in Veins.

Sioux County Annual Meeting

Officers elected at the annual meeting of the Sioux County Medical Society held at the Legion Hall in Sioux Center, Monday, December 14, include: Dr. A. L. Lock of Rock Valley, president; Dr. F. F. Null of Hawarden, vice president; and Dr. C. B. Murphy of Alton, secretary and treasurer. The society voted in favor of establishing a county health unit under the Social Security Act.

C. B. Murphy, M.D., Secretary

Tama County

Thirty members and guests of the Tama County Medical Society met in Tama Friday, January 15, for the regular meeting. After a six-thirty dinner, A. J. Wentzien, M.D., of Tama, presented a paper on Treatment of Sciatica.

Washington County

The Washington County Medical Society met in regular session Tuesday, January 26, in Washington, with O. R. Hyndman, M.D., of Iowa City, as its guest speaker for the evening. Dr. Hyndman presented a paper on Head Injuries, and illustrated his lecture with lantern slides, charts and x-ray films. An interesting and instructive discussion followed this presentation, entered into by all members present.

W. S. Kyle, M.D., Secretary

Wayne County Annual Meeting

A symposium on Buerger's Disease was presented by B. B. Parker, M.D., and C. S. Hickman, M.D., both of Centerville, to members of the Wayne County Medical Society, at their annual meeting held in Allerton, Thursday, January 7. Election of officers resulted as follows: Dr. B. S. Walker of Corydon, president; Dr. G. H. Sollenbarger of Corydon, secretary and treasurer; Dr. Walker, delegate; and Dr. J. H. McCall of Allerton, alternate delegate.

G. H. Sollenbarger, M.D., Secretary

Sioux Valley Medical Association

The forty-second annual session of the Sioux Valley Medical Association was held at the Warrior Hotel in Sioux City, January 19 and 20. The following lecturers and their subjects appeared on the program: The Treatment of the Third Stage of Labor, R. A. Reis, M.D., obstetrician, Michael Reese Hospital, Chicago; Surgery of the Colon, Karl Meyer, M.D., associate professor of surgery, Northwestern University Medical School, Chicago; Spondylolisis,

thesis, Fremont Chandler, M.D., assistant professor of orthopedic surgery, Northwestern University Medical School, Chicago; The Treatment of Tumors of the Mouth and Throat, Dean M. Lierle, M.D., professor of otolaryngology, University of Iowa, College of Medicine, Iowa City; The Trends in Medical Education and Their Effects on Future American Medicine, C. W. Poynter, M.D., dean and professor of anatomy, University of Nebraska, College of Medicine, Omaha; The Treatment of Pneumonia, H. M. Korn, M.D., associate professor of medicine, University of Iowa, College of Medicine, Iowa City; Diseases of the Thyroid in Childhood, R. L. J. Kennedy, M.D., department of pediatrics, The Mayo Clinic, Rochester; and The Newer Methods of Treatment of Urinary Infection, W. F. Braasch, M.D., section on urology, The Mayo Clinic, Rochester.

Newly elected officers of the association, named at the annual business session are: Dr. L. C. Sherman of Luverne, Minnesota, president; Dr. N. J. Nessa of Sioux Falls, South Dakota, vice president; Dr. H. I. Down of Sioux City, Iowa, secretary; and Dr. Walter Brock of Sheldon, Iowa, treasurer.

DEATH NOTICES

Busby, Charles Dorrance, of Brooklyn, aged sixty-six, died at Grinnell Hospital, January 8, of septicemia following a streptococcic infection. He was graduated in 1897 from Marion-Sims College of Medicine, St. Louis, and at the time of his death was a member of the Poweshiek County Medical Society.

Coleman, Harry Lovejoy, of Farragut, aged seventy, died suddenly January 23, of angina pectoris. He was graduated in 1891 from Rush Medical College, Chicago, and at the time of his death was a member of the Fremont County Medical Society.

Kessler, James C., of Iowa City, aged fifty-six, died suddenly January 1, after a paralytic stroke. He was graduated in 1906 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Johnson County Medical Society.

McDevitt, Charles S., of Des Moines, aged fifty-six, died January 24 of complications after an illness of pneumonia. He was graduated in 1909 from the University of Louisville, School of Medicine, and had long been a member of the Polk County Medical Society.

Schroeder, Peter Herman, of Davenport, aged fifty-seven, died January 19 after an illness of three weeks. He was graduated in 1904 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Scott County Medical Society.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk
DR. JOHN T. MCCLINTOCK, Iowa City
DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines
DR. WALTER L. BIERRING, Des Moines
DR. WILLIAM JEPSON, Sioux City

Historical Sketch of Medicine in Dubuque County Where Iowa State History First Began

IN FOUR PARTS

HENRY G. LANGWORTHY, M.D., Dubuque, Iowa

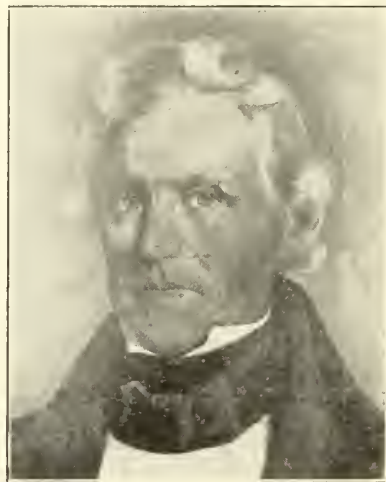
PART I—Continued

Earliest Public Observance of American Independence at Dubuque Lead Mines July 4, 1836, Headed by a Physician, Dr. Stephen Langworthy

The next year 1834 witnessed the arrival of Dr. Stephen Langworthy who came to join permanently his four pioneering sons who had but recently reopened the old lead mining sites of Julien Dubuque. By working together in their projects, the Langworthy brothers were rapidly making new history for Iowa, then the Territory of Wisconsin. Because of the importance of the earliest medical men at the camp, a brief individual history, where it was possible to obtain it, is of interest as throwing a good deal of light on conditions of that day and generation.

Dr. Stephen Langworthy, born at Windsor, Vermont, on November 4, 1777, arrived at the Dubuque mines in 1834 to join his four sons, some of whom had been mining across the river near Galena, Illinois, as early as 1824. One of them, James, a government scout, had already secretly explored the old mining sites of Julien Dubuque, in company with two Indian guides, as early as 1829, but had not been allowed to remain on forbidden ground. Dr. Langworthy was a graduate of Yale College and obtained his early medical education at Newport, Rhode Island, and in practice in both Sackett's Harbor and Hopkinton, New York. He served as a surgeon in the United States Army during the war of 1812 and was a keen observer and close student. It was said of him by his medical associates, that he was far in advance of the day because of his extensive army service, and being of a very social nature, as the first really permanent physician in the mining

camp, he took a permanent part in many of the business affairs of the community as well. On July 4, 1836, at the first public observance of American Independence at the Dubuque mines, Dr. Langworthy served as president of the day and his toast was to the "Young and Rising Territory of Wisconsin," of which Iowa was then a part. The suggestion for the name of the state



STEPHEN LANGWORTHY, M.D.
1777-1848
First Permanent Physician and Surgeon of
Dubuque County



of Iowa, meaning "Beautiful Land" in the Ioway Indian tongue, was largely taken from an original poem by one of his sons, Lucius, which was circulated among the legislatures. In 1845 Dr. Stephen Langworthy acted as receiver of the United States Land office at Dubuque, an important position in the Pierce administration. During his practice he was often called long dis-

tances to do surgery and for consultation in serious cases. He traveled almost entirely by horseback, and for many years on an old white horse along infrequent trails and streams carrying such instruments and drugs as might be needed, in a saddle bag. Toward the latter part of his life he retired to a large farm north of the city and his commodious home was a mecca for his twenty-two children; he had been married twice. He died in September, 1848, at seventy-one years of age, having seen and taken part during his life time, in many stirring events in both the local history of old Dubuque and the nation at large.

PART II

EARLY SETTLEMENT AND PIONEER DAYS 1830-1859

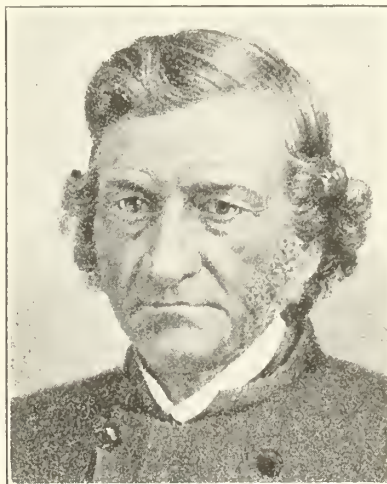
In outlining the lives of the very early pioneer doctors of Dubuque County, it is clearly seen that many of them were not only practicing their profession but were actively engaged in laying the foundation of a city and state as well. In such labors the members of the medical profession occupied a most prominent position. Perhaps the very necessity of self-reliance and lack of conveniences, incident to a new mining community, developed in them that remarkable quality of substitution and the ability to adapt themselves to difficult surroundings which has never been surpassed. For the most part the physicians, like the other settlers, were either young or men still in the prime of life, conscious of their ability and eager to play their part in the border drama of a newly developing western frontier. They had to be strong and courageous; many times a physician would be forced to snatch a few hours sleep in the saddle on a fifteen or twenty mile ride to a distant patient with his horse picking its way along the ridges through the woods or fording small streams. In rain or beginning snow the task was doubly hard. What an adventure, however, and how they gave of themselves to do their part in building our early nation in the west!

Dr. John W. Finley, Founder of Finley Hospital.

In 1836 Dr. John W. Finley, a native of Lincoln County, North Carolina, and raised as a boy on a farm in Kentucky, came to the mining country and settled in Dubuque. His medical education was under several practicing preceptors and final attendance at medical lectures in Cincinnati, Ohio. In a biographic sketch of Dr. Finley read before the Iowa State Medical Society in January, 1878, Dr. William Watson had this to say:

"Standing over six feet, he was well calculated

to endure the labor that fell to his lot. Though without that suavity of manner or polished culture that are valued so highly by many physicians and patients, his kindness of heart and deep interest in his cases, secured to him the confidence of his colleagues and the community in general to a greater extent than falls to the lot of the average practitioner. During the earlier years of his practice, he made long journeys to the scattered settlements of the interior, often going a distance of forty or fifty miles over trails and across the country from one well known point to another. Few men could have withstood such hardship and faced without flinching the incessant demands made upon him. He was engaged in active practice nearly forty years, including three years that he was in the Great War of the Rebellion as surgeon of the 37th Infantry, called the Iowa Grey Beards. He served faithfully until mustered out at the close of the war and witnessed and per-



JOHN W. FINLEY, M.D.
1807-1877
Founder of Finley Hospital
Dubuque, Iowa



formed a great deal of war surgery." He planned to build a hospital and at the later death of his wife, arrangements of their estate were so made that such purposes could be faithfully carried out. Finley Hospital now stands as one of the crowning achievements of his life and is in every way a model of success and usefulness both to the community and to the state."

Not only did Dr. Finley have associated with him in his office other prominent physicians at various times in order to take care of an unusually large practice, but for some years he was also the senior member of the business firm of Finley, Burton and Company, operating a white

lead and paint factory. With all his interests however he took an occasional winter off, to be spent at Louisville, Kentucky, attending medical lectures in order to keep up to date in his profession. His example in this regard stands as an excellent professional guide to follow. At one time he had in mind the starting of a medical School in Dubuque, as the first in the state, but found it not practical to carry out. He died at the age of seventy on August 3, 1877, a doctor who had sought the frontier and by a lifetime of persevering labor and self denial left the memory of "a life fragrant with kind acts and good deeds," like Finley Hospital, which will always survive him. Some day much more lengthy articles will be written and inscribed to these far-seeing doctors who, as part of their lifeblood, established hospitals as their contribution to posterity in the middle-west.

Dr. Crane, who came to the mines in 1837, had a decided inclination as a surgeon and his ability was soon recognized. He practiced in the locality some ten or twelve years when he removed to California.

(To be continued)

History of the Austin Flint-Cedar Valley Medical Society

W. E. LONG, M.D., Mason City

In 1892 the Austin Flint Medical Society was organized in Hampton, Iowa. About 1901 it was combined with the Cedar Valley Medical Society and since that time has been known as the Austin Flint-Cedar Valley Medical Society. There were two sessions a year: the summer session, lasting for three days; and the fall meeting, lasting two days. As time went on and better roads with swift automobiles became available, the reunions were reduced from three days to two days and finally to one day, and for the past two years it has been conducted with a noon dinner and an afternoon scientific program.

This society has always been a real medical unit and has been conducted in a very creditable manner by its members. For a number of years it was regarded as a big family society. With no great amount of ceremony, real scientific papers and various clinics were sponsored by individual members of the society. Occasionally an out of state speaker was imported, who added considerable to the dignity of the occasion; but the tendency for many years was for locally conducted programs. We feel a certain amount of pride in the fact that many members of our society now

have a creditable standing in the medical profession in the state of Iowa.

About six years ago new phases of medical activities developed in the nature of council meetings which are a part of the Iowa State Medical Society organization. These district meetings are valuable, especially along political lines and seem to be necessary in our state work. The Speakers Bureau was established and is able to supply worth while speakers for radio broadcasts or scientific programs, as the occasion requires. Post-graduate courses have been presented, the enrollment for which testifies to their value.

In the course of these events and in keeping with the innate desire to be well grounded and up-to-the-minute in medical research, it seemed, on due consideration, that perhaps we have had too many over-lapping societies. For two or three years we have tried to eliminate or coordinate some of these medical activities to the end that more and better doctors might be appraised of new developments, and still have sufficient time to attend such meetings. The plan to form a new society under the name of "Austin Flint-Tri District Society" was adopted at a regular fall meeting of the Austin Flint-Cedar Valley Medical Society, held November 10 at Iowa Falls. The name "Austin Flint" is retained and "Tri District" added, and the new organization will include physicians in the first, second and sixth councilor districts. These districts cover about the same territory as that of the old Austin Flint-Cedar Valley Medical Society. The first meeting of the new society will be held next summer in the first district, the place to be later announced by officers of the society. The meetings are to be rotated from one district to another. There will be only one summer meeting each year, and each district is to be responsible for the program when the meeting is in that district.

The present officers of the Austin Flint-Cedar Valley Medical Society will continue to serve until the first meeting in the summer of 1937, at which time new officers will be elected. There will be no stated dues, but physicians attending the meetings are asked to pay a registration fee of one dollar and to pay for his banquet ticket. Under the above arrangement, it is believed that the new society can present worth while programs that will attract a large attendance and fulfill the needs of a scientific program, but still retain the heritage of the old Austin Flint-Cedar Valley Medical Society. We feel that the new group will also serve to consolidate physicians in these three districts to present a unified front to the public on questions of vital importance to our profession.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

A DIABETIC MANUAL—By Edward L. Bortz, M.D., associate professor of medicine, Graduate School of Medicine, University of Pennsylvania. Illustrated. F. A. Davis Company, Philadelphia, 1936.

ADULT EDUCATION—By Lyman Bryson, professor of education, Teachers College, Columbia University, New York. American Book Company, Cincinnati, 1936.

ARTHRITIS AND RHEUMATIC DISEASE—By Maurice F. Lautman, M.D., consultant to the U. S. Public Health Service Clinic. McGraw-Hill Book Company, 330 West 42nd Street, New York, 1936. Price, \$2.00.

AN INTRODUCTION TO MATERIA MEDICA AND PHARMACOLOGY—By Hugh Alister McGuigan, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois, College of Medicine, Chicago. With 71 text illustrations and 18 colored plates. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.

CHEMICAL PROCEDURES FOR CLINICAL LABORATORIES By Marjorie R. Mattice, A.B., Sc.M., assistant professor of clinical pathology, New York Postgraduate Medical School of Columbia University, New York. Lea and Febiger, Philadelphia, 1936. Price, \$6.50.

FUNDAMENTALS OF HUMAN PHYSIOLOGY—By the late J. J. R. Macleod, M.D., D.Sc., F.R.S., late regius professor of physiology, University of Aberdeen, Scotland, and R. J. Seymour, M.D., professor of physiology, Ohio State University. Fourth edition, C. V. Mosby Company, St. Louis, 1936. Price, \$2.50.

INTERNATIONAL CLINICS, Volume III, Forty-sixth Series—Edited by Louis Hamman, M.D., visiting physician, Johns Hopkins Hospital, Baltimore. J. B. Lippincott Company, Philadelphia and London, 1936.

MICROBIOLOGY AND PATHOLOGY FOR NURSES—By Charles F. Carter, M.D., Director of Carter's Clinical Laboratory, Dallas, Texas. With 138 text illustrations and 14 colored plates. C. V. Mosby Company, St. Louis, 1936. Price, \$3.00.

PRINCIPLES OF CHEMISTRY—By Joseph H. Roe, Ph.D., professor of biochemistry, School of Medicine, George Washington University. Fourth edition. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.

SOCIAL ASPECTS OF THE BANANA INDUSTRY—By Charles David Kepner, Jr., Ph.D., Columbia University Press, New York, 1936.

A TEXTBOOK OF NEURO-ANATOMY—By Albert Kuntz, Ph.D., M.D., professor of micro-anatomy, St. Louis University School of Medicine, St. Louis. Second edition enlarged and revised. Lea & Febiger, Philadelphia, 1936. Price, \$6.00.

A TEXTBOOK OF PATHOLOGY—By W. G. MacCallum, professor of pathology and bacteriology, Johns Hopkins University, Baltimore. Sixth edition, 1277 pages with 697 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$10.00.

TISSUE IMMUNITY—By Reuben L. Kahn, M.S., D.Sc., University of Michigan, Ann Arbor, Michigan. Charles C. Thomas, Springfield, Illinois, 1936. Price, \$7.50.

BOOK REVIEWS

PHYSICIAN, PASTOR AND PATIENT

By George W. Jacoby, M.D., past president of the American Neurological Association. Illustrated. Paul B. Hoeber, Inc., New York and London, 1936. Price, \$3.50.

While medicine and theology have throughout time been reckoned among the learned professions, few attempts have been made to determine the interrelationship of the two and to establish from the cultural aspect the interdependence of the one on the other in their contributions to modern civilization. The title of this book, therefore, is intriguing to the thoughtful physician, not only for its uniqueness but also because of the author's appreciation of the close relationship of the two professions. Dr. Jacoby brings to this problem a mature judgment and an enviable experience obtained in his many years of practice and advanced study.

Divided into four main sections, each of several separate chapters, the subject is presented from a broad viewpoint which requires an impartial position concerning the relative merits of medicine and religion. Part I defines the physician, the scope of his work, and its limitations. The relation of religion and the patient as manifest in various health practices required by religious ceremony and the superstitions which have developed concerning health matters as a part of religious customs are fully discussed in Part II. Part III presents vital modern day problems of positive interest to both physicians and surgeons. Here is discussed contraception, birth control, the divorce problem, criminology and the insane, sterilization, sex education, vivisection and

kindred subjects. Part IV outlines the field in which medicine and religion may join hands in every day life and the future of each under such cooperation.

Like many well written philosophic and historic essays this treatise holds the reader's interest by its logical interpretation of established and frequently well known historic facts, developed in terms of modern medical science and practice.

THE TECHNIQUE OF CONTRACEPTION

By Eric M. Matsner, M.D., Medical Director, American Birth Control League. Third Edition. The Williams & Wilkins Company, Baltimore, 1936. Price, fifty cents.

Reported to have sold 20,000 copies in its first two editions, this pamphlet now appears in its third edition, revised and entirely up to date. This manual has been prepared for the guidance of physicians, since, it is assumed that information concerning contraception should be disseminated by the medical profession. That the subject is timely is reflected in the fact that at the meeting of the House of Delegates of the American Medical Association in 1935 resolutions were unanimously adopted requesting the study of birth control by that organization. It is pointed out in the pamphlet that while contraceptives vary in their efficiency and safety, certain medically approved methods are effective 93 to 97 per cent of the time.

The author reviews these several methods recommended or commonly employed, pointing out the advantages and disadvantages of each method. He

concludes that in the present state of research and technic, the contraceptive method giving the best result is that of the vaginal diaphragm or cervical cap. The reasonable price of this pamphlet together with its clearness and authoritative presentation makes it particularly useful to those physicians who require a manual of this sort in their practice.

ON YOUR GUARD!

The Prevention and Treatment of Sex Diseases—by Carl Warren, B.A., B.S., M.S.J.
Emerson Books, Inc., 251 West Nineteenth Street, New York, N. Y., 1937. Price \$1.00.

This book has been published for the layman and is designed to familiarize him with gonorrhea and syphilis, in keeping with the present public health point of view to control venereal infection. A history of the two diseases is outlined and the frequency of venereal infection is clearly presented. The chief function of the book is instruction in individual prophylaxis and emphasis on its importance. The symptoms of gonorrhea and syphilis and the methods of treatment are briefly described.

Physicians should welcome this opportunity to place this volume in the hands of young men, to provide accurate information in an inoffensive manner.

D. H. K.

ADULT EDUCATION

By Lyman Bryson, professor of education, Teachers College, Columbia University, New York. American Book Company, Cincinnati, 1936.

During the past decade there has been a very definite popular demand for adult education as demonstrated by the efforts in many localities in sponsoring and supporting forums directed by educational authorities. So far as we are aware this is the first attempt to define the field and to outline the principles involved in a successful continuation of educational methods for adult groups. The author, in full appreciation of this pioneering effort, disclaims any assumption of authority, but hopes by his several discussions to promote a healthy debate on the subject which may point the way in the further development of this special field of education.

A chapter of particular interest to physicians is entitled, "How Adults Learn." As might be suspected from the title the author in this section debates the researches of Thorndike who concludes that the acme of ability to learn lies between the ages of twenty and twenty-five years, and that beyond this age there is a steady decline in ability until the individual reaches the age of forty-two years. Following this age the ability to learn is lost at a much swifter pace. The author attempts to define and differentiate the type of education suitable to these various age groups and to point out the various compensating faculties which are fortunately in-

creasing in the adult with the onset of his decline in ability to learn. Maturity ripens judgment and increases selectivity, permitting rapid separation of the wheat from the chaff of the material studied. While this chapter is of particular interest because of its psychologic aspects, the entire subject is one of applied psychology in adult groups and should appeal to every progressive physician.

BASAL METABOLISM IN HEALTH AND DISEASE

By Eugene F. Dubois, M.D., medical director, Russell Sage Institute of Pathology; professor of medicine, Cornell University Medical College, New York. Third edition, thoroughly revised. Illustrated with 98 engravings. Lea and Febiger, Philadelphia, 1936. Price, \$5.00.

This third edition covers the theory and facts of basic metabolism. The author goes into considerable detail regarding the theoretical estimation of the surface area of the body and in the selection of normal standards. He has thoroughly reviewed the literature concerning basal metabolism. It is of interest to note the effect of blood dyscrasias on basic metabolism.

ENDOCRINOLOGY IN MODERN PRACTICE

By William Wolf, M.D. 1018 pages with 252 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$10.00.

Investigations, particularly during the past five or ten years, have centered interest in the field of clinical endocrinology since it became apparent that regardless of one's practice the endocrinopathies abounded. Prior to the publication of this volume no satisfactory discussion of endocrinology from a clinical aspect was available. In this volume the author has kept in mind the needs of the general practitioner, especially those in the many fields of practice not definitely endocrine in nature.

In the first section of the book he presents the significant features of the anatomy, histology, embryology, and physiology of each gland as a background for further study. Following this he presents the disease entities and describes each in a manner that will permit a physician accurately to diagnose the condition. A second section deals with the endocrine aspects of "non-endocrine" diseases. Here a large group of conditions are discussed from the standpoint of the contribution which endocrinology may make in the study and treatment of the disease. The third section of the book deals with endocrine diagnosis, presenting adequate methods of history taking, physical examination, laboratory procedures, et cetera. The final section of the book deals with available endocrine preparations, discussing the use of these preparations and their pharmacodynamic action. The volume is illustrated.

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No. 3

PERENNIAL VASOMOTOR RHINITIS*

HERBERT J. RINKEL, M.D.

Kansas City, Missouri

Perennial vasomotor rhinitis is a chronic allergic disease due to specific sensitization to inhalants and ingesta. It is characterized pathologically by hyperemia or edema of the nasal mucosa; eosinophilic infiltration, mild to profuse nasal discharge, and frequently by secondary changes, particularly polyposis. Clinically there are more or less constant symptoms consisting of nasal itching, rhinorrhea and obstruction, paroxysms of sneezing, as well as loss of smell. There are frequent so-called "colds" which in the majority of instances are infections secondary to an allergic reaction. This form of allergy has been studied by many workers, particularly Eyerman,¹ Rowe,² Rudolph and Cohen³, and Hansel⁴ who has recently reviewed the literature on this subject.⁵ The importance of food sensitization will be emphasized in this communication since few of the recent publications have given this factor its deserved recognition.

ETIOLOGY

The etiology of a perennial disease predicates the presence of the specific factor the year around, or that one is sensitive to a number of products whose seasonal incidence overlaps and thus creates a perennial disease. The first is the more common condition. These specific causes belong to two groups, the inhalants and the ingesta.

1. *The Inhalants*

Of the inhalants, pollen may be a perennial factor, although this is rare. More often it is responsible for seasonal exacerbations of perennial nasal allergy. We cannot concur in the belief that any pollen, for instance, ragweed, is an etiologic factor through the winter months. The definite improvement in nasal symptoms during the winter, including relief from so-called "colds" in patients on perennial pollen therapy is possibly nonspecific,⁵ rather than relief from "colds" initiated by specific pollen absorbed at that season. In some

cases pollen induces symptoms from the middle of February until the first of November. In these instances there is sensitization to a number of pollen groups beginning with the trees, then the grasses, the pigweeds, plantain, hemp (*cannabis sativa*) and the ragweeds. These cases, however, constitute a minority of the total number of patients.

The second group of inhalants of importance is constituted of the epithelials. It is easy to account for perennial symptoms on the basis of sensitivity to feathers, cat hair, dog hair and other common animal danders. The incidence and prevalence of the epithelials is sufficiently understood that detailed comment is not necessary.

The third group of inhalants includes the various dusts, of which orris root is possibly the most common single or concomitant cause of perennial allergy. In addition there are a number of other dusts, particularly those of the house and occupational variety. Patients who are sensitive to house dust are invariably worse in winter months because of the concentration of this product in the air during this season. There is also the possibility that the cold air in the winter aggravates the allergic response created by these dusts and other allergens. Pyrethrum may be a source of year around symptoms although it is more often a complicating rather than a primary cause of perennial reactions. In the case of all inhalants, with the exception of feathers and animals in the home, there is the possibility of intermittent exposure. The individual who is sensitive to orris root is not in contact with it at all times, and when the allergen is inhaled it accounts for a definite increase of symptoms. Therefore, we must search farther than inhalants in those patients who exhibit a constancy of symptoms that precludes occasional contact with an exciting factor.

In evaluating the etiologic importance of inhalants this point must be borne in mind: when there are skin reactions to orris root, cat hair, dog hair, feathers, or other epithelials, these products are eliminated without definite clinical proof that they are capable of causing symptoms. In a

*Presented in part before the Southwestern Postgraduate Medical Association, Clarinda, March 31, 1936.

great number of instances feathers fail to produce symptoms when clinical tests are made. For the most part sensitivity to feathers is not demonstrated but assumed, and it is because of this assumption that figures concerning the incidence of inhalant sensitivity in patients with perennial vasomotor rhinitis are likely to be misleading.

2. *The Ingesta*

The second group of allergens responsible for perennial nasal allergy is the ingesta. In fifty unselected cases of perennial vasomotor rhinitis there were 314 instances in which foods precipitated symptoms. Of these fifty cases there were twenty-eight patients whose sensitizations were completely evaluated. In this group there were 243 instances in which food produced definite nasal allergy. It was not possible to treat these patients satisfactorily without the elimination of these foods. This is an incidence of proved food sensitizations of eight plus per patient. In twenty-two cases the symptoms were controlled but the diagnosis was not completed; that is, certain foods were not tested to determine if they had any effect upon the nasal symptoms. All patients had satisfactory relief upon the basis of the arrangement of the diet as far as it had been studied. In this group there were seventy-one instances of food sensitization, or an average of three plus per patient. These figures are somewhat higher than reported by other workers. Patients who had no skin reactions, either by scratch or intradermal testing, and whose symptoms were practically constant and very severe had the highest incidence of food allergy. This was proved by several facts; first, these patients were clinically controlled with the elimination of specific foods; second, in every sensitization reported herewith, symptoms could be reproduced by deliberate feedings; and third, the leukocyte responses were indicative of sensitization.⁶ These facts indicate that the food factor was a specific one.

3. *Secondary Factors*

Secondary factors definitely influence the symptomatology of perennial nasal allergy. The common experience of a patient being worse in winter than in summer indicates the modifying effect of cool air as compared to warm air. The influence of house dust is not being discounted by this statement. Paroxysms may be excited through reflexes. One woman presented herself for study because of sneezing and watering of the nose whenever she plucked her eyebrows. She was successfully treated by the elimination of potatoes. Many patients complain that combing the hair, expressing blackheads, and shaving the

upper lip, will initiate an attack of sneezing and watering of the eyes and nose.

SYMPTOMATOLOGY

The actual symptoms experienced by the patient consist of the following: rhinorrhea, sneezing, blocking of the nose and itching of the nose, and sometimes of the eyes. These symptoms may occur continuously or in repeated attacks and in either instance vary in degree from mild to severe. These patients may be classified under three distinct groups as regards the presence and degree of their allergy. The first group consists of those whose reactions are present more or less constantly throughout the year. The second group includes patients subject to year around symptoms with definite exacerbations in summer. This seasonal influence is of course due to pollen and foods with a seasonal incidence, for instance, strawberries, cantaloupe and watermelon. The third group is composed of patients whose exacerbations occur in the winter time. It is difficult to speak of the symptomatology of allergy without considering the etiology. For this reason one is primarily concerned in analyzing the course of the disease in relation to specific factors. If a patient is affected on every day of the year, the daily variation in symptoms is important. This information is obtained not only for the purpose of evaluating the severity of the symptoms, but also for analyzing the relation of contacts and ingesta to the exacerbations which occur from time to time.

The symptomatology in the course of any one day may consist of mild blocking of the nose or one to two sneezes upon arising followed by one-half to two hours of nasal discharge. The remainder of the day the patient is apparently free of symptoms. This mild clinical course may be punctuated with repeated colds which upon careful study are found to be allergic reactions complicated with a secondary infection, and hence, are not primarily colds. This clinical condition is very common. The disease pattern may be very definite, with the patient suffering prolonged sneezing and profuse discharge upon arising. After breakfast there may be temporary improvement following which the patient is subject to nasal symptoms throughout the day. These patients frequently awaken in the middle of the night with definite nasal itching and a dry burning sensation in the nose. Following the almost unavoidable rubbing of the nose, the patient will sneeze once to a dozen times after which there is a profuse nasal discharge. As this discharge subsides the patient usually becomes comfortable and passes into a deep sleep, awakening at the usual

time feeling quite drowsy. The amount of sneezing to which the patient is subject varies with the amount of edema and swelling of the nasal mucosa. In extreme cases where the patient is unable to breathe through the nostrils, except after the use of drugs which shrink the mucosa, there is little sneezing. As these cases improve under treatment the sneeze reflex returns so that there is actually more sneezing than when the patient was first seen.

There is no consideration more important to the diagnostician than the correct evaluation of the daily symptom pattern. These patients are not subject to the same degree of reaction throughout the entire day, and it is upon this basis that one can analyze many if not all of the precipitating causes. This subject will be more fully discussed under diagnosis.

PATHOLOGY

Examination of the nasal mucosa reveals either a bright red or a bluish edematous mucosa. Often there is a mixture of the two, or one side may be red while the other is definitely discolored. The pathology of this disease has been so fully covered by Hansel's work⁴ that it is not necessary to mention more than these two general types. The multiplicity of sensitizations usually can be judged by the degree of swelling and discoloration of the nasal mucosa. Patients in whom we find a brilliant red mucosa are sensitive to few products, chiefly inhalants, while those whose nasal passages are occluded by bluish gray swollen turbinates are multiple sensitive and of these sensitizations, foods are the most important factors.

DIAGNOSIS

The procedure in the diagnosis of perennial nasal allergy is similar to that of the other allergies, particularly asthma. Other disease syndromes are eliminated by the history and physical examination. When the disease entity has once been established, one must determine the specific causes in order to arrive at a diagnosis. The following steps are useful:

1. *Skin tests*

The value of the skin test in allergy, when it is correctly made and interpreted, is limited by the general incidence of concomitant skin and shock organ sensitivity. In the case of inhalants this accuracy is relatively high, but in the case of foods it is approximately 40 per cent. The accuracy of skin tests is in ratio to the degree of clinical relief afforded the patient. If one reports upon the value of skin testing in a series of patients who are said to be 80 per cent relieved of symptoms,

then skin tests will have an accuracy of between 70 and 85 per cent. If, however, one limits the evaluation of skin testing to that group of patients in whom every allergic upset can be accounted for, then the accuracy decreases to approximately 40 per cent. The limitations of skin testing are all the more important because it is with the foods that the error is the greatest and at the same time this group of allergens is responsible for the majority of the symptoms.

2. *Clinical studies*

Clinical studies are records of what a patient eats, what he contacts and the presence and degree of his symptoms, and are interpreted upon the basis of the known immunologic and symptomatic reactions of sensitization. There is no value in keeping a record of the fact that a patient did not sneeze on Monday or Tuesday morning but sneezed ten times on Wednesday morning unless one knows how to correlate the previous contacts and the diet with such morning symptoms. In the same light the relief of symptoms following a meal is of value in an analytic study. The value of clinical records are not dependent alone on the accuracy of the patient's observations, but upon their correct interpretation. For the purpose of clinical study I have devised a daily diet and symptom record⁷ on which the patient can register the various meals and the occurrence of reactions. In using these charts an attempt is made to compare symptoms from hour to hour as well as to indicate their presence. The record is interpreted upon the basis of the known factors which modify the etiologic effect of food and influence the symptomatology. These factors have been fully covered elsewhere.⁸

A few clinical features of nasal allergy are of sufficient importance to be considered in detail. The question frequently arises as to the cause of morning sneezing. Many patients find that as soon as they roll over in bed, sit up, scratch their heads, or with the first contact of the bare feet on the floor, a paroxysm of sneezing and nasal discharge is initiated. In some instances these attacks are very severe, accounting for as many as fifty sneezes before the reaction subsides. The last symptoms to disappear are those occurring at this time of the day. Patients often insist that they are free of allergy through the day but continue to have nasal irritation in the morning. Since all etiologic factors have apparently been removed the cause of these attacks is all the more perplexing. Symptoms occurring upon arising are proportional to the total allergic insult of the previous day. If an accurate record is kept of the nasal reactions, it will be found that patients

who say they are free of symptoms throughout the day, do have nasal irritation, particularly that of mild nasal discharge without itching or sneezing. In one patient it was learned that a food which produced an immediate (within forty-five minutes) reaction of nasal discharge requiring several wipings of the nose was responsible for attacks of sneezing for three mornings thereafter. One may have this same clinical symptomatology from an inhalant as well as from a food.

Another reaction of importance is that of nasal itching, burning, sneezing and profuse discharge, coming in paroxysms through the night. If these occur two or three nights a week, one should be able to pick out the offending factor from the daily diet and symptom record. It is characteristic of food to produce attacks of this type, particularly if the patient lives in the same environment and is comfortable except on these few occasions.

Another noteworthy phase of the symptomatology is the reaction appearing between four to five o'clock in the afternoon each day. It is not uncommon for the patient to volunteer the information that about the same time each afternoon there is a definite paroxysm. In these cases if one is not exposed at that time to a specific inhalant, the most likely factor is that of food in which the phenomenon of anti-anaphylaxis is involved. A patient noted that every evening when he was closing his office (five o'clock, p. m.) he was subject to a dry burning sensation of the nose followed by several sneezes and nasal discharge. In this particular instance eggs were responsible for the reactions. Anti-anaphylaxis or neutralization of symptoms is of importance in other instances than late afternoon attacks. It can account for the fact that a patient sometimes feels better after a meal including foods to which he is sensitive. Another feature of interest is the use of foods to which there is a latent sensitivity. Many of these foods can be taken without causing symptoms if used upon a single occasion. If, however, the patient uses the food a second time within three to four hours it is possible and common to have nasal irritation. The reaction just described is prone to occur with fruits. While we are considering food only as a factor in perennial vasomotor rhinitis in this article, it is recognized that these same symptoms can be produced by inhalants.

It will be seen that the clinical studies involve a knowledge of the etiology and the mechanism of food allergy as well as an accurate record of the foods eaten and the symptoms that follow ingestion. It is necessary for the physician to make the clinical food tests in his office with the patient under his personal observation.

3. *The Leukopenic Index*

The leukopenic index was originally described by Vaughan⁹ and its use in allergic diagnosis has been reported upon by Zeller,¹⁰ Rinkel^{11, 12, and 13} and Gay.¹⁴ Its technic and interpretation were recently reviewed by Rinkel and Gay.⁶ It has been found that with non-allergic foods the leukocytes were generally increased, whereas with allergic foods they were generally reduced, following the ingestion of a test food. These tests involve considerable time and an unusual degree of accuracy in making white counts and they should not be used clinically until one has acquainted himself by actual experience with the limitations of the procedure. When this is done the efficiency of the test is between 81 and 84 per cent as reported by the various workers, but one must eventually resort to clinical testing.

The diagnosis of perennial vasomotor rhinitis then involves three definite procedures: skin testing, clinical studies, and the use of the leukocyte response test. Because of the frequency and importance of food sensitization in nasal allergy, the diagnosis of food allergy must be complete; that is, the allergic effect of every food must be evaluated.

FOOD FACTORS IN NASAL ALLERGY

The food factor in nasal allergy has certain features which may be profitably reviewed. The severity and chronicity of symptoms is often indicative of the degree and multiplicity of food sensitization. Symptoms which are present every hour of the day are usually due to foods. Another characteristic of food sensitization in nasal allergy, of diagnostic importance, is the interval between ingestion and the onset of symptoms. A food taken occasionally will as a rule produce symptoms within an hour, whereas, a food used constantly tends to produce late post-meal symptoms. There are two other features of the symptomatology which are commonly due to foods. The one is the occurrence of severe paroxysms of nasal allergy in the middle of the night, and the other is the incidence and variation in severity of such symptoms which occur as soon as the patient arises. That these two exacerbations may be due to inhalants is not denied, but the fact is being emphasized that food is the most common cause of these two exacerbations where a patient lives under the same environment. A close study of the immediate post-meal period will reveal the fact that mild symptoms occur at that time, and that a delayed reaction is experienced at the times indicated. In regular clinical study the occurrence of these two attacks calls for a close scrutiny of the

diet of the preceding day. It has been proved that morning sneezing will persist for at least five days following the last intake of an allergic food.

Another important reaction from food sensitization is the factor of combined dosage; that is, the ability of a food to produce symptoms in the presence of pollen, whereas it is tolerated throughout the remainder of the year without any apparent effect. This is a feature of extreme importance in patients whose nasal allergy shows seasonal exacerbations as well as in the primary seasonal hay fever patients. Another feature of food allergy to be considered is the production of symptoms by certain foods through the winter; foods which are taken without any ill effect in the summer. This type of sensitization is independent of house dust allergy although it may be complicated by it.

Although one may occasionally successfully determine the specific food sensitivities by skin testing alone, the diagnosis is usually made upon an analysis of the diet and the symptomatology based upon a knowledge of the nature and mechanism of food sensitizations. These have been adequately discussed elsewhere.⁸ However, it is well to review them briefly. Sensitivity to a food exists and passes through several consecutive stages, and since food allergy is usually multiple any one of these various stages may exist with the different foods. We might begin with masked sensitivity; that is, the covering up of symptoms by the continual repetition of the foods in the diet (anti-anaphylaxis). A patient consults the physician because of these masked sensitizations since he can and usually does discover the other causes of his symptoms. If such a food is eliminated the patient then exhibits a period of hypersensitivity during which small amounts of food will produce exaggerated symptoms as compared to those present in the period of masked sensitivity. If the elimination is strict and continued over a long period of time the patient gradually enters a stage of decreased sensitivity, and finally latent sensitivity where there are many confusing clinical variations. The patient may note mild symptoms if the food is eaten on an empty stomach, and no symptoms if the food is taken in the course of or at the end of the meal. He may be able to use the food one day without difficulty but its use on two successive days may produce symptoms. It is this stage of food sensitivity which makes the diagnosis difficult and tends to discourage a patient. With further elimination the patient enters the stage of tolerance and at this time is able to eat the food under any conditions without symptoms. Tolerance may be permanent, but more often it is temporary.

If a temporary tolerance for a food is exceeded, and this may be done by excessive incidence of the food in the diet, the patient will first develop latent, then mild sensitivity and eventually masked sensitivity. In other words, one will have completed a cycle of food sensitization passing through the successive stages of masked, decreased and latent sensitivity to tolerance; then back through latent, mild, and finally to masked sensitivity again. Different stages in the cycle of food sensitization exist for all foods in the diet and therefore, the diagnostic problem must evaluate all of these factors for all foods. Since it is possible for latent sensitivity to pass into active sensitivity one should protect the patient from the development of new sensitizations and should be able to govern the patient's diet so that when tolerance is achieved it will not be destroyed rapidly. It is of as much importance to the patient to know how to eat as it is to be told what to avoid. An understanding of the cycle of food sensitivity is of far more importance in the clinical management of the patient with perennial nasal allergy than is any procedure of skin testing or any method of desensitization by subcutaneous injections and will remain so until some form of therapy is devised which will make possible the maintenance of tolerance for a food regardless of the amount consumed.

TREATMENT

In a certain percentage of patients with nasal allergy the elimination of a few foods and hypsensitization with several inhalants will effect clinical relief of symptoms. In other patients the inhalants will have no influence upon the clinical course of the disease. In these instances the diagnostic problem is limited to a determination of the allergic status of all foods. In another and smaller group of patients it will be found that inhalants alone need be considered in the treatment; while in a final group one will find so many foods a factor that a correctly balanced diet is virtually impossible. In this instance the most practical procedure is used rather than specific elimination. In every instance in which food is a cause of nasal allergy a complete survey must be made of the diet. By this is meant a determination of what foods actually cause symptoms, and those for which there is a latent sensitivity, as well as the foods for which there is a tolerance. It is just as necessary to teach the patient how and when to partake of foods which once caused symptoms as it is to deny the patient specific foods originally. Therefore, after a period of strict elimination, clinical tests are made to determine if tolerance has been acquired to any of the allergenic foods. When this phase of the food cycle exists

the patient is then advised as to the amount of food to be taken and the intervals at which it should be used, so that tolerance will be maintained. The problem of maintaining tolerance is one which requires observation and close study.

The diagnostic leukocyte response has proved efficacious as a means of preserving tolerance, as a curve denoting incompatibility is usually obtained before clinical effects are noted. This test requires considerable experience and is not a practical one for every day use. Previous to its use it was necessary to govern the interval and the amount of feedings entirely by clinical effects. Owing to the frequency and multiplicity of food sensitization in patients with nasal allergy it is absolutely essential that its mechanism of reaction be understood and that its diagnosis be complete. This should be done without neglect of the inhalant factors.

SUMMARY

1. In any patient subject to chronic symptoms characteristic of nasal allergy the probability of food sensitization must be eliminated. This is done by a combination of skin testing, clinical studies and the leukopenic index.

2. Food sensitization in patients with nasal allergy accounts for many of the various portions of the disease pattern, particularly the severe chronic symptoms without seasonal modifications; for the paroxysms occurring during the night and upon arising when a patient remains in the same environment, as well as for the post-meal reactions which often begin within an hour after the meal.

3. Food allergy is not constant, but is modified by the incidence of ingestion and may vary from active sensitization through the various stages of sensitivity to tolerance when these stages may reverse themselves.

4. The etiologic importance of foods may be increased by the concomitant exposure to inhalants, or the effect may be increased by climatic changes. Therapeutic measures in patients with nasal allergy should be as exhaustive and detailed in the matter of the ingesta as for the inhalants. Too much credence has been given the minor inhalants in comparison to their actual clinical importance. Food is not the sole cause of nasal allergy, but it is such a frequent one that its full effect must be evaluated in every case.

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915 Argyle Building.

THE ENVIRONMENTALLY CONDITIONED BEHAVIOR PROBLEM

HOWARD E. WEATHERLY, M.D.

The Iowa State Psychopathic Hospital,
Iowa City.

Evidence in Iowa of the developing interest of not only the physicians, the courts, and the special social and child welfare groups, but of the laity too, in the procurement of psychiatric consultation for the management of childhood problems is clearly manifest by the increasing number of children seen annually at the Iowa Psychopathic Hospital. Approximately two-fifths of all patients examined in the hospital out-clinic during the past year (1935) were children; that is, persons under twenty-one years of age. Of these, the majority were child behavior problems. The physicians of the state are rapidly coming to realize that such disorders are to be considered equally as important as frank physical disease. The truant, the child with temper tantrums, and the petty thief, are as incapacitated for useful life in his community or in his home as is the cardiac, the arthritic, or the chronic osteomyelitic patient. It is to facilitate further this developing interest that the present paper is presented.

The topic can best be dealt with by separating the field into subdivisions according to etiology. With this means of classification, four groups emerge, which may be almost indistinguishable symptomatically. First, there are the problems which arise in patients with organic brain disease, most notably in the postencephalitic and in the post-traumatic cases. Children with epileptic deterioration, too, are prone to develop abnormal behavior patterns which result in clashes with their environment. In the second place, misbehavior of one sort or another is often seen in children who

show an intelligence level in the feeble-minded group and in whom this handicap alone can be proved to have resulted in their untoward actions. A third group comprises those cases which we are forced to call constitutional psychopaths; that is, cases in which the defect appears to lie innate in the personality structure and for which no environmental factors can be determined. In the last classification there is a large number of children who come to the clinic with complaints of varying nature made against them, which can, sometimes with ease and sometimes only with considerable difficulty and close analytic scrutiny, be shown to come as the direct result of environmental situations.

It is quite true that these diagnostic groups are not always clearly demarcated. The feeble-minded child may develop a conduct disorder because of an immediate precipitating environmental factor, and a child which we call "environmentally conditioned" may have in his constitutional personality makeup, trends which predispose to the development of symptoms. On the whole, however, one etiologic factor usually predominates to such an extent that the problem will fall safely into one of the above classifications, and to such an extent that treatment can be planned in accordance with the diagnosis. It is from the last group, the environmentally conditioned behavior problems, that I wish to take for discussion a typical case, although it is superficially somewhat more obvious than the average. The study will proceed along lines which can be easily followed in the investigation of any similar case and will consider the influences which may have been contributory to the development of the symptoms or complaints.

The case is that of a white boy thirteen years of age, an only child, whose parents brought him to the clinic upon the recommendation of a solicitous and understanding welfare association. The workers in this association could not agree with the father and mother that the boy was hopelessly incorrigible and a subject for the state training school. The accusations against him were that he was disrespectful, discourteous, and disobedient. He refused to do household chores which were expected of him. Often he would not divulge his whereabouts upon returning home late at night. On more than one occasion, he deserted the home with apparent finality and had to be returned by the police. Truancy from school was common, and he forged his father's name to school excuses. He stole money from his father, then lied about it. Most serious of all, he became physically abusive to both parents and threatened to throw a knife through his mother or shoot her. On the face of it, one could hardly

doubt that distraught parents, after having lived with such behavior for several years, and being unacquainted with the physician's interest, were justified in turning to the law for rescue.

In an analysis of this type, it is well to begin with a study of the home, and more specifically, with the parents. Both are becoming elderly. The father is one of thirteen siblings of easy-going disposition, raised in an atmosphere of "The Lord will provide." He holds a high academic degree and is listed in *Who's Who In America*. He is obviously an intelligent person, but he is fussy, volatile, and visionary. Since he was discharged from the last of his several college teaching posts, he has occupied himself with the development of many thoroughly impractical medical treatments. At the present time, he is just beginning to admit that there may be a fault in his own personality makeup to account for his failures, and he has applied for psychiatric advice as to whether or not he is a "social misfit". The mother is a buxom, hard-looking woman of an unusually practical turn of mind. She has served as dean of women in a small eastern college. Her early home was one in which the rule was tyrannical and where all were forced to obey unquestioningly. Upon her fell the entire care of five younger brothers for whose protection she frequently found it necessary to engage in physical battle with neighborhood boys.

A factor which is important, because of the celerity with which a child comes to understand it and to react to it, is the father-mother relationship. In spite of, and perhaps to a great extent because of the desirable features in each of these parents, namely, the scientific excellence of the father and the strength of character of the mother, the union has been unsuccessful in the absence of other tie-binding prerequisites. For this couple, the marriage was one of convenience. Neither parent professes to have ever held any real love for the other. In the case of the child, the mother has domineered, the father has cajoled and pampered. The mother has treated the boy depreciatingly; the father has set excessively high standards and has falsely praised. This disparity in opinion as to management has extended into momentous and trivial events alike, and it follows that unavoidably any child thus influenced becomes perplexed, knows not whose authority to respect, and, therefore, often respects none.

While differences of opinion have been legion in the lives of these parents, the most disturbing factor has always been the presence of our patient in the home. The mother candidly admits that he has been a source of friction and dissension since his earliest infancy, so much so that separa-

tion or divorce has been considered. A child is able to sense this discord to an almost unbelievable degree, and may not infrequently, as did this boy, resort to truancy as an escape from a home life which was too intellectual and monotonous. A child demands variety, color, and humor in life, none of which this boy has ever known. This disagreement in the attitude of the parents toward the child actually preceded its birth. The mother planned never to have a child. She told us that her own early experiences with her brothers had forever turned her away from the desire to rear an offspring of her own. The father, however, felt a bit more kindly toward the idea of progeny; at least, he felt that he must have one heir. Extended discussions on the point resulted in a promise by the wife that she would bear him one child.

The road which the newborn was to travel in his early years had thus already been made dangerous, but was made even more precarious when he himself contributed to the unfortunate and antagonistic maternal feeling by the development of a severe colic, lasting through the first six months of life, closely followed by an infantile eczema, and later by other allergic manifestations necessitating a careful dietary and medical regimen. Quite frankly, the mother admits that she has always had a feeling of resentment and rejection towards her son, primarily because of the burden which he has placed upon her. She admits, too, that she is jealous of the freedom which is her husband's for trips and activities outside the home. Intellectually, she understands that obedience and cooperation are secured by most parents through tact, diplomacy, kindly put requests, and occasional demonstrations of sympathy and affection, but she says that emotionally she has never been able to put such methods to use. She actually says that it would have nauseated her ever to utilize a kiss as a reward or payment in advance for genteel conduct.

The situation in which this boy found himself when he began to grow up was peculiarly constrained. He was constantly denied the opportunity for play according to his own choice, but an attempt was made to coerce him into developing tastes along the lines of his intellectual forebears. Denials met his early requests for comic strips, motion pictures, and radio's Orphan Annie. He was forced to wear eccentric, outgrown, and poorly mended clothes, which were so noticeable as to call forth comment from his school superintendent. The boy resented the denial of privileges which he saw allowed to others, and naturally the degree of resentment, in all probability, was proportional to the stringency of the denials.

As the child can sense the presence of friction, he can also sense in an uncanny way the extent to which he is being accepted into the home. He can feel the presence or absence of pride of the parents in him, and he is most likely to live up to expectations or to fail miserably according to this incentive.

The undesirable, even if natural, reactions of the boy to his situation began to show themselves at an early age. The first problem arose when he was three years of age. It consisted of taunts thrown at him by other boys in the neighborhood; consequently, the parents felt it necessary (the request never came from the boy) to accompany him on all errands and to school. It never occurred to them to allow him freedom to settle his petty childhood arguments in his own way. No doubt this close parental supervision flaunted before his playmates only tended to increase their jibes and flourishes at him. Soon there began the series of misdemeanors which were always aggravating and frequently intolerable to these parents. When harsh demands for obedience began to fail at about the age of seven years, a battery of other methods was put into use and has been continued until the time of admission into the hospital. Oddly enough, conditions instead of improving, became steadily worse. For staying out later than the stipulated hour of his return home, the punishment was that he must sleep on the porch. Truancy from home was treated by the mother herself running away "to show him how it seems." At all times since the age of nine, it has been expected of him that he must return one hour of work for each sixty minute period spent by the mother in his interests. This included the time which she spent cooking his meals, mending his clothes, making his bed, etc. The time was carefully checked and recorded daily. In the event that the patient fell short in his time trade, it meant that he would have to cook his own meal or iron his own clothes. Almost habitually before his hospitalization he had to stand next to his mother and cook his own meal as she prepared the food for herself and her husband.

In the beginning, frequent whippings were resorted to, but more recently the mother has felt obliged to challenge the patient to fist fights as she had disciplined neighborhood children in her youth. Nothing short of perfection has been tolerated by either of the parents. They have never sympathized with even slight mistakes in conduct and they have never been willing to give a lump of sugar for a reasonable trial if the outcome was faulty. The father has never punished the boy physically. He prides himself that he has appealed to his intellect, to his reason, and to his

judgment. A study of his methods, however, leads us to believe that they have been tiresome, laborious, poorly understandable, and ineffective even for a child thirteen years of age. They have never recognized possible pitfalls in the age-old struggle between father and son, between the older and the younger generation. They have continually demanded straight-laced conformance to adult standards.

With these conditioning factors the first step in our therapeutic approach was to establish a proper contact with the boy and to win his confidence. A prime prerequisite in coming to understand any personality is the development of a certain degree of rapport, although in the study of children this is even more essential than in the study of adults. Intellectually, an adult can comprehend that the psychiatrist is in need of certain facts and a grown patient can produce them from his life history very much at will, even though it is against his emotional principles, so to speak, to do so. This is not true with the child. With children it is necessary to develop a strong working rapport, that is, a harmonious relationship and a feeling of mutual understanding. This must come, especially in cases such as the one at hand, in order to break through the reserve and natural resentment toward adults which in such a boy as this have developed insidiously over a considerable number of years. Briefly, this is done by assuming from the start a completely uncritical attitude. The child must not feel that he is in danger of being criticized, scolded or advised. One must create for himself the position of an unbiased and sympathetic confidant. This necessitates daily contacts of casual nature often for several weeks, as it did in this particular case. Gradually the child begins to realize that he needs no defense, since no fire is being leveled at him. When, and only when this time comes, can one begin to discuss points pertinent to the problem at issue. Although they may sometimes be present, it is not necessary to locate any deep seated psychogenic reasons for the development of the hatred for the mother and the disrespect for the father which the patient freely expressed.

It is not essential to probe deeply in order to discover factors which have resulted in the rebellion of this boy, who possesses a wealth of normal feeling tone and warmth of emotion. It required time and careful observation on the ward to demonstrate his possession of these traits. At the beginning the patient was surly, suspicious, cautious in his responses and replies, and not a little antagonistic at times. As soon as he learned, however, that all of the world was not against him, he gradually emerged and began to show def-

inite, pleasant emotional responses to small privileges and favors, and to make subtle and amusing little bids for the affection and recognition which he had never before experienced. The development of these attitudes is important for it gives a clue to the possibilities and capacities in the child for the formation of guiding ties, a feature very similar to that which the psychoanalysts speak of as transference. In many cases of psychopathic personality we find that these attitudes never develop. This absence interferes with the treatment.

At no time during the seven weeks which the patient remained in the Psychopathic Hospital was he in any way a behavior problem. He submitted to the strict ward routine with unquestioning obedience. He worked faithfully and with obvious pleasure in the occupational therapy department and in the dining room. He made many friends, was fair in sports, and good natured in defeat. In summary, he was, once established in his new home, a perfectly average, normally behaving young man. The estimation of the intelligence level is of importance in the study of the past events, the expected results of psychotherapy, and in the development of plans for the future. This thirteen year old boy performed at the level of a fifteen year old on the Stanford-Binet Intelligence Test and earned an intelligence quotient rating of 112. His physical status, aside from a slight allergic response to certain foods and pollens, was essentially negative, as were also all of the laboratory tests, including spinal fluid examination.

In review, a word now to support the diagnosis in the case and the title of the present paper. The normal physical status and laboratory tests at once and without question rule out an organic conduct disorder. The high intelligence level precludes the possibility of feeble-mindedness as a factor. Most significant in ruling out a constitutional personality defect is the remarkable capacity which the boy showed to adjust under altered influences as witnessed in the hospital ward and as will be seen further when the subsequent course is mentioned. With the positive features which are unavoidably seen in the home situation, then, a diagnosis of behavior problem, environmentally conditioned, can be made and further treatment carried out accordingly.

At this point it is well to review the liabilities and the assets found in this boy. Here the assets are definite. The father is an intellectual person with a desire to succeed in the rearing of his child. The mother is brilliant and with great strength of character. The patient is bright mentally and normal in his emotional makeup. The liabilities are the clash of personalities in the case of the par-

ents, the lack of maternal inclination to try further, and the wide breach which already separated the child from the family and the home, his antagonism to his environment. The physician must attempt to marshal his assets to offset his liabilities. With the patient a series of talks in a common sense manner will bring out in an understandable way the factors which have embittered him and will convert them into points of enlightenment. If the physician himself thoroughly understands the trend of development of the situation, it is entirely likely that he can overcome the resentment of the patient. It is obvious that this will not be enough and it must be seen to what extent the environment can be changed.

In the parents the reaction patterns and the emotional shadings are well established. Paramount also is the fact that already ties have been severely strained, and wounds have left scars which are ugly and not easily ignored. The keloid will be painful if only slightly irritated. A long series of psychiatric interviews has failed to let the father recognize that he is stodgy, biased, and narrow-minded, and that his views are already hopelessly antedated. The mother has some insight into the fact that she is cold and resentful of the presence of her child, but she is not upset by the recognition of these things and professes no desire to change. She has said that she is too old to alter her feelings. With this then, we frankly admit defeat here in the attempt to change environmental circumstances materially so that the home could be livable for the three people concerned. The task of procuring a suitable foster home presents itself, and with our present arrangement in the Iowa Psychopathic Hospital this important and difficult work is almost entirely cared for by the social service division. Such a home has been located for the patient. After three months he is well established with his foster parents and foster siblings, and the entire group is congenial and happy.

The prognosis, then, in such a case is made obvious. Because of financial reasons, it is true that some time the boy will have to return to the home of his parents. Our hope is that by that time breaches may be narrowed, and that the boy in the meantime may have been able to see and to understand what it takes to create a smoothly running family relationship so that in the future he may take the initiative and the active part in the maintenance of peace on a front where, of necessity, diplomacy will be the essential defense. I have chosen this case because certain features have been so obviously striking and so definitely contributory to the problem. Other cases are equally clear in their superficial aspects but may be

managed in a somewhat different way, and fortunately, in some instances it is not necessary to remove the patient from the home.

A second case which I shall mention briefly will illustrate the latter point. A boy, fifteen years of age, was brought into the hospital by his father, who related that in the past two years his son had developed attacks of extreme temper outbursts in which he had knocked down his father, sworn at his mother, and threatened to kill them both. With entire frankness the father told the examiner that he himself was very high strung with a tendency to temper displays and that once he had become so angry at his wife that he had choked her. He was an intelligent man and his tearfulness in relating the history was the result of the fact that he, according to his own statement, so well realized the part that his own personality had played in the development of his son's incorrigibility. The emotional balance of this boy's mother was little better. She spoke of herself as flighty and possessed of an explosive temper.

In the hospital, the patient was a model of propriety, as he had always been in any situation outside the home, where through several years there had been built up a veritable tempest in a teapot. In this case, both parents felt very kindly towards the child, in spite of his awry behavior, and having advised at some length all three of the involved parties, it was felt that a trial period with the patient in his original environment was warranted. Through our routine follow-up investigation we have learned that eight months after the patient's discharge from the hospital the home continues to run quietly.

SUMMARY

Childhood behavior problems are discussed, a classification is made, and two cases belonging to the group of environmentally conditioned behavior problems are presented. Such treatment as may be applied by the general practitioner in such conditions is stressed.

THE DEPENDABILITY OF WASSERMANN AND KAHN TESTS IN THE DIAGNOSIS OF SYPHILIS

M. P. SPANSWICK, Serologist, and
ROBERT G. SNYDER, Associate Serologist,
From the State Hygienic Laboratories,
Iowa City

The protean manifestations of syphilis offer a diagnostic challenge which the physician faces at every turn. Laboratory tests have been designed as an aid to him in this situation. From data accumulated from the examination of a large num-

ber of specimens received in the State Hygienic Laboratories, some general observations and conclusions are of interest to those concerned in the diagnosis and treatment of syphilis. All tests used in the laboratory study of syphilitic infection measure such infection indirectly. They show whether or not certain changes have taken place in the body fluids of the patient. Experience has shown that these changes commonly take place in a luetic infection and but rarely in other infections and conditions. The laboratory methods demonstrating this change in blood serum and spinal fluid are chiefly complement-fixation and precipitation tests. The values and interpretations of laboratory reports to physicians depend upon varied factors and present a number of problems dealing primarily with the specificity and sensitivity of the tests employed. It is the purpose in presenting the data tabulated in this study to answer, in part, questions which confront the physician in interpreting serologic reports in relation to the clinical condition of the patient.

The data in this series represent the results of the routine Wassermann and Kahn tests performed on 51,257 blood specimens received in this laboratory between June 1, 1935, and October 31, 1936. The source of the material is from the routine service to the physicians of Iowa, the state institutions and University Hospitals. Both a complement-fixation test and precipitation test are performed routinely on all specimens. The complement-fixation test (Wassermann) employs an anti-sheep hemolytic system, plain alcoholic and cholesterinized antigens with icebox fixation. The precipitation test used is the standard three tube Kahn test. The numerical results obtained are evaluated as positive, doubtful and negative, according to the generally accepted interpretation.

The physician upon receiving reports of Wassermann and Kahn tests is faced with the question of their specificity. To what extent are these tests specific and under what circumstances and conditions are they of doubtful specificity? Inasmuch as there is no access to clinical history which

could be correlated with laboratory tests, we are not in a position from this series to make any statements regarding the specificity of the two tests. A recent survey conducted by the United States Public Health Service, however, shows our reports to be 100 per cent specific; that is, blood sera which gave positive reactions were from luetic patients in all instances and no positive reactions were obtained on sera from normal individuals. A definitely positive reaction with two serologic tests for syphilis leaves little doubt that the infection is luetic.

A certain percentage of cases give positive reactions with one test and none with the other. Some of these reactions may be nonspecific. There are factors of non-syphilitic origin known to affect serologic tests. Febrile conditions often give rise to positive Wassermann reactions. Badly contaminated or hemolyzed specimens probably result in more unsatisfactory and nonspecific Wassermann than Kahn reactions.

Of the 51,257 specimens of blood sera examined, 44,350 were completely negative with both tests; 6,907 gave some reaction with either the Wassermann or Kahn test, or both. The percentage of positive and doubtful reactions, figured on the basis of the total number of specimens examined, is 13.4 per cent. This figure cannot be considered to indicate the incidence of syphilis in Iowa because of the selected source of the material. Many specimens are from cases of suspected exposure to infection and necessarily there are duplications of sera from patients under treatment, increasing the number of reacting sera but not representing the general population. Of the 6,907 specimens which showed a reaction of some sort with one or both tests, 6,331 (91.4 per cent) were made evident by the Wassermann test; 6,185 (89.5 per cent) were made evident by the Kahn test. If the Wassermann test alone had been used, 594 reactions out of the 6,907 would have been missed; if the Kahn test alone had been used, 725 reactions out of the 6,907 would have been missed. The disparity shown in the results of the two tests

TABLE 1.

	Wassermann		Kahn		Both Tests	
	Number	Per Cent of total specimens*	Number	Per cent of total specimens	Number	Per cent of total specimens
Positive Reactions.....	4,815	9.4%	5,158	10.0%	.....	.....
Doubtful Reactions...	1,496	2.9%	1,027	1.8%	.....	.....
Number of Reactions...	6,311	12.3%	6,185	11.8%	6,907	13.4%
Negative Reactions	44,946	87.7%	45,072	88.2%	44,350	86.6%
Total	51,257	100.0%	51,257	100.0%	51,257	100.0%

*The percentages in Tables I and II include every reaction whether marked for diagnosis or control or non-designated. The latter group comprises those in which the physician failed to check the data blank.

TABLE II.

	Positive Kahn		Doubtful Kahn		Negative Kahn		Total	
	Number	Per cent of total reactions*	Number	Per cent of total reactions	Number	Per cent of total reactions	Number	Per cent of total reactions
Positive Wassermann	4,153	60.1%	350	5.1%	312	4.5%	4,815	69.7%
Doubtful Wassermann	668	9.6%	418	6.1%	410	5.9%	1,496	21.6%
Negative Wassermann	337	4.9%	259	3.7%			596	8.6%
Total	5,158	74.7%	1,027	14.8%	722	10.4%	6,907	99.9%

See footnote, Table I.

should not be interpreted as indicative of their relative sensitivity. Such a conclusion would be based upon the fallacious assumption that the slightest reaction of any sort is a sign of syphilitic infection. The advantage of either test is not apparent in a mass evaluation which contains no reference to the clinical aspect of the individual cases.

The comparisons in Table II are based on the 6,907 specimens of blood sera in this series which gave a reaction of any sort with either test. No further comment or consideration is given in this study to those specimens which gave completely negative reactions with both tests.

Of the 6,907 reacting sera, 4,153 (60.1 per cent) were positive with both the Wassermann and Kahn tests; 418 (6.1 per cent) were doubtful with both; thus the results were in total agreement in 4,571 (66.2 per cent) cases. Of the 6,907 reacting sera, 596 (8.6 per cent) gave a reaction with the Kahn test and none with the Wassermann test; 722 (10.4 per cent) gave a reaction with the Wassermann test and none with the Kahn test. The significance of these reactions with one test and none with the other should be considered in the light of individual histories and the condition of the blood specimens examined.

A question of practical importance to the clinician is the comparative value of the two tests in undiagnosed syphilis. Is one test more sensitive than the other in detecting early syphilis? Is either test sufficiently sensitive to be depended upon alone?

Report blanks are provided with spaces for indicating whether the case is one for diagnosis or under treatment. This information, when given, is assumed to be correct. When the results are divided into groups according to this data, the relative sensitivity and specificity can be more correctly evaluated.

Of the sera giving any reaction with either test, 3,281 were marked for diagnosis. Of this number, 2,248 (68.5 per cent) gave positive reactions with both tests; 147 (4.4 per cent) gave doubtful reactions with both; thus the results were in total agreement in 2,395 (72.9 per cent) cases marked for diagnosis. Of these 3,281 specimens, 360 (10.9 per cent) gave some reaction with both tests although not of the same degree of sensitivity. Thus, 2,755 (83.8 per cent) gave reactions with both the Wassermann and Kahn tests. New syphilitic infections are said to react positively earlier when a Kahn test is used than when a Wassermann test is employed. This is substantiated by our data which show there were 3.3 per cent more positive Kahn reactions than Wassermann reactions. Doubtful reactions on cases giving no positive history of infection should be considered conservatively, and laboratory tests should be rechecked so that temporary nonspecific causes may be eliminated.

Of the reactions on sera from undiagnosed cases 13.1 per cent showed a stronger Wassermann than Kahn reaction; 15.7 per cent showed a stronger Kahn than Wassermann reaction. This indicates that the Kahn test is, in a slight degree, the more

TABLE III. DIAGNOSIS.

	Positive Kahn		Doubtful Kahn		Negative Kahn		Total	
	Total	Per cent of total reactions	Total	Per cent of total reactions	Total	Per cent of total reactions	Total	Per cent of total reactions
Positive Wassermann	2,248	68.5%	129	3.9%	125	3.8%	2,502	76.2%
Doubtful Wassermann	231	7.0%	147	4.4%	179	5.4%	557	17.0%
Negative Wassermann	129	3.9%	93	2.8%			222	6.7%
Total	2,608	79.5%	369	11.2%	304	9.2%	3,281	99.9%

sensitive of the two. That each test is more sensitive than the other in certain cases justifies the assumption that one test alone is not sufficiently sensitive to be depended upon in the laboratory diagnosis of syphilis.

Of the 3,281 blood sera, 222 (6.7 per cent) gave a reaction with the Kahn and none with the Wassermann test; 304 (9.2 per cent) gave a reaction with the Wassermann and none with the Kahn test. Thus in about sixteen per cent of the specimens sent in for diagnosis there was no agreement in the laboratory findings. These differences are troublesome and often defy an explanation. However, the seriousness of these is more apparent than real. It is known that in some instances the data blanks were marked incorrectly for diagnosis although the patient had been under treatment. The diagnosis of individual cases depends upon much more than laboratory serologic examinations. The clinician is in a position to interpret the laboratory findings on the basis of clinical history which is often indefinite and obscure. Advanced and undiagnosed cases of latent syphilis and neurosyphilis which have had no treatment often give atypical reactions. Obviously, in a study of this kind, this factor complicates a comparison of the sensitivity of any two tests. It must also be kept in mind that any physiologic or chemical change in the blood may affect the delicate lipoidal balance upon which the test depends, thereby causing transitory atypical serologic reactions. Nonspecific factors may be more easily detected by the use of more than one laboratory method. Discrepant results should be carefully checked, as to history, complicating physiologic factors and laboratory results.

The physician is naturally concerned with the manner in which the laboratory tests reflect the reduction in intensity of infection occurring under treatment. Is one test more sensitive than the other in treated cases? Is either test sufficiently sensitive to be depended upon alone? The specimens received marked for control of treatment are probably correctly designated, the patient is known to be syphilitic and has had some course of

treatment. Of the 6,907 sera giving any reaction with either test, 2,167 were marked for control of treatment. Of this number 1,024 (47.2 per cent) gave a positive reaction with both tests; 183 (8.4 per cent) gave doubtful reactions with both; thus the results were in total agreement in 1,207 (55.6 per cent) of cases marked for control of treatment. Of the 2,167 under treatment, 445 (20.5 per cent) gave some reaction with both tests although not of the same degree of sensitivity. Thus 1,652 (76.1 per cent) gave some reaction with the two tests. Comparing this with the corresponding figure for the tests for diagnosis (83.8 per cent) and the larger number of doubtful reactions on sera from treated cases, it is clear that they do register the effect of treatment.

The Kahn test is said to remain positive longer than the Wassermann test in treated cases. That it is the more sensitive test in this respect is confirmed by Table IV which shows there were 5.6 per cent more positive Kahn reactions than Wassermann reactions. The Kahn test was stronger in 24.9 per cent and the Wassermann test was stronger in 19.3 per cent.

Of those marked for control, 240 (11.0 per cent) gave a reaction with the Kahn test and none with the Wassermann test; 275 (12.7 per cent) gave a reaction with the Wassermann test and none with the Kahn test. Thus in about twenty-four per cent of those specimens from persons having received treatment there would have been no reaction with one test or the other. This figure is higher than the corresponding one for diagnosis, which was sixteen per cent. From this it is apparent that the sensitivity of either test alone is of less dependence in the cases under treatment than in those for diagnosis. In fact, studies now in progress indicate that the interpreted sensitivity of the Kahn test may be definitely increased by the routine supplementary Kahn presumptive test which employs a more sensitive antigen than that used in the standard three tube test. Discrepant reactions are to be expected in sera from patients who have received antisyphilitic therapy. It is known that the composition of

TABLE IV. CONTROL OF TREATMENT.

	Positive Kahn		Doubtful Kahn		Negative Kahn		Total	
	Number	Per cent of total reactions	Number	Per cent of total reactions	Number	Per cent of total reactions	Number	Per cent of total reactions
Positive Wassermann.	1,024	47.2%	144	6.6%	113	5.2%	1,281	59.1%
Doubtful Wassermann	301	13.9%	183	8.4%	162	7.5%	646	29.8%
Negative Wassermann.	121	5.5%	119	5.5%	...	...	240	11.1%
Total	1,446	66.7%	446	20.6%	275	12.7%	2,167	100.0%

the blood varies from time to time and it is reasonable to assume that the syphilitic reagins are present in varying amounts at different intervals. They also may react with different degrees of intensity with the two tests at one and the same time.

CONCLUSIONS

In this article, evidence has been presented to show that :

- 1. Neither the Wassermann test nor the Kahn test alone is sufficiently sensitive to be depended upon exclusively.
- 2. There is little difference in the sensitivity of the Wassermann and Kahn tests.
- 3. The combined results of both tests provide the physician dependable information as to the diagnosis of syphilis and as to the effect of anti-luetic treatment.

With respect to specificity, the analysis of discrepant and doubtful laboratory findings in undiagnosed cases should be carefully checked by repeated examinations and by comparison with the clinical data before a diagnosis of syphilis is made.

THE TREATMENT OF PARESIS

Based on an Analysis of 113 Patients

M. C. WHEELOCK, M.D.*

Cherokee State Hospital, Cherokee

It is the author's wish to present an analysis of the patients suffering from paresis who were treated by malaria and tryparsamide at this institution during the past three years. They number in all 113. They have been grouped according to the accepted custom of recovered, improved, unimproved and dead. It is well to bear in mind that there is a constant fluctuation in this arrangement as some of the unimproved are dying, some of the improved are recovering, et cetera. On this basis it was necessary to take an arbitrary time limit. The grouping is outlined in the following table:

	Number	Per cent
Recovered	23	20%
Improved.....	43	38%
Unimproved.....	16	14.6
Dead.....	31	27.4
Total.....113		100%

It will be noted that these figures are in fairly close agreement with the results as published by other workers. Nineteen of the deaths were in 1932, five in 1933 and seven in 1934. The larger number in 1932 was due to the fact that certain patients had been confined to the hospital for sev-

eral years and were rather far advanced cases. Furthermore, there was no great selection and the malaria was used more or less indiscriminately. A closer observation was made of the patients during the subsequent two years. At the present time a modification in the method of inoculation has prevented the severe onset, thus enabling the bodily processes to adapt themselves to the infection. Twenty-two patients expired from malaria, three from lobar pneumonia, two from pulmonary tuberculosis, three from paresis and one from tuberculous peritonitis. The group where death resulted from malaria includes those patients in whom the plasmodium was the primary factor. However, a number of these individuals had important contributory causes, such as chronic nephritis, luetic aortitis, and chronic myocarditis. In order to consider the mortality rate from a correct point of view, any unexplained death which resulted after inoculation and in which no definite mortal cause could be ascertained was classified as due to the parasites. Eleven necropsies were done and of these, four were over six months from the time of infection with the disease. In none of them was the cause malaria. On the other hand the remaining seven were definitely associated with evidences of malarial death.

Of the unimproved, six are deteriorating rapidly despite the fact that the febrile reactions were very satisfactory and the course was run without difficulty. Fairly large doses of tryparsamide were given without any dramatic response. The injections are continued unless the patient is too feeble to endure the procedure. Five are able to do some simple tasks on the wards and keep themselves fairly well occupied. The remaining five merely lead a vegetative existence. They continue to receive the pentavalent arsenic, however. In five the spinal fluid showed an excellent response, as did the blood. In the remainder there was very little change, excepting in the cells and the colloidal gold.

As would be expected the improved group contained the largest number of patients. Given a further extension of time it is expected that many others will be changed to the recovered classification. Without exaggerating this would include at least twenty. The remaining twenty-three are more or less stationary. In the spinal fluid the reactions showed marked improvement in fourteen, with no great change excepting the colloidal gold and cells in the remainder. The twenty-three who recovered are all patients who have been paroled from the hospital. On a clinical basis they are the ones who have shown the best results. They have all been discharged from the records. Anyone who is connected with a state hospital realizes the

* At present, Assistant Superintendent, Mt. Pleasant State Hospital, Mt. Pleasant, Iowa.

difficulty of getting these patients to return for a further check-up. Of this group five did so and they showed no evidence of a return of the disability. The spinal fluid analyses still demonstrated evidence of spirochetal activity. Again there was shown the diminution in the cell count with the lowering of the colloidal gold curve, but with the other findings persisting strongly.

As soon after admission as possible the patient suffering from paresis was brought to the staff and the diagnosis was established. He or she was then inoculated with malaria in the following manner: A one and one-half cubic centimeter syringe was one-eighth filled with sterile saline. The tip of the finger of the infected patient was pricked and about five drops were aspirated into the barrel. This was mixed with the saline, and with the usual antisepsis was given intravenously to the recipient. This presented an overwhelming invasion of the organism and allowed for the building of a certain amount of resistance. The usual incubation period was about ten to twelve days. Shortly before the expected time he was transferred to the sick ward. From then until the disease had been terminated the pulse and temperature were taken hourly. In all cases where the physical status justified, twelve to fourteen rises in temperature over 103 degrees were permitted before the administration of quinine. This was given as the sulphate, five grains twice daily for ten days. The temperature usually subsided at the second day. If it persisted some complication was found to be the cause. A high carbohydrate, easily digestible diet was given in order to supply sufficient calories and to protect the liver cells. The blood pressure was taken every other day. A blood count was done three times a week. A developing anemia was treated by liver extract intramuscularly and iron by mouth. In this whole series only two transfusions were necessary.

Two months from the time the malaria was stopped, injections of tryparsamide were given. An examination of the eyegrounds was done and the extent of the peripheral fields was roughly estimated. The tryparsamide was administered intravenously, one grain each week, for ten doses; this was followed by a rest period of two months. Close observation was kept during the first series. The patient was cautioned about haziness, dimming of vision, blurring sensation, flashes of light, and such. The attendants were warned to watch for any stumbling or uncertainty, especially on climbing stairs. It was necessary to discontinue the drug temporarily in only one case, and later it was reinstituted without difficulty. After the first course the dose was increased to three grams. Wherever possible an attempt was made to give

at least two courses to the patient before he was paroled. Those who left the hospital were advised and urged to continue treatment under their own physicians. Thus far no case of optic atrophy has developed.

Before malaria is given the whole plan is outlined to the nearest relative or guardian, and their signatures, giving permission to use this form of therapy, are obtained. This precaution removes the danger of a suit and also insures the good will of the interested parties.

SUMMARY

Most observers have found that the best results in the treatment of paresis have been obtained from a combination of malaria and tryparsamide. The outline as followed in this hospital is given briefly. It has been devised according to the regime of other institutions with some minor points added. As more and more groups of cases are reported, better analyses may be made and different plans may be suggested until the most satisfactory one is found.

CONCLUSIONS

1. Of the 113 patients treated with a combination of malaria and tryparsamide 23 or 20 plus per cent recovered, 43 or 38 plus per cent improved, 16 or 14.6 per cent were unimproved and 31 or 27.4 per cent died.
2. The improvement in the spinal fluid did not accompany the clinical changes.
3. It is more advisable to estimate the degree of advancement by changes in the mental status.
4. The death rate from the malaria may be lowered by close observation of the patient, a standard diet and care to prevent anemia.
5. The danger of optic atrophy from tryparsamide is not so pronounced as has been implied in some of the literature of the past.

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VAGINAL URETEROLITHOTOMY

WAYLAND K. HICKS, M.D., Sioux City, and
GERRIT MARIS, M.D., Hull

Vaginal ureterolithotomy is a surgical procedure that has received a minimum of attention in the literature during past years. Recently, two articles on the subject have appeared in the *Journal of Urology* and it is possible that the future

may see a trend toward this type of low ureteral exposure in women. Because of this recent flare-up of interest and because of the excellent results obtained in selected cases, the subject is a timely one for discussion. Certainly it is an interesting one, because its infrequent mention in the medical records has not kept us aware of its possibilities. Until 1925, when Lower reported eight cases of vaginal ureterolithotomy, the operation had only occasionally been mentioned in the literature and even more rarely practiced. Lower found only nine cases reported prior to his series. Six of his group of patients were successfully operated upon, while two had stones that slipped back up the ureter, necessitating a different approach later. Shaw, in 1935, described four cases in which vaginal ureterolithotomy was used to marked advantage. Two of his patients were exceptionally poor risks, while a third had had a previous, unsuccessful attempt at removal by the abdominal retroperitoneal approach. Two of the patients were good risks, and were out of the hospital with no drainage in five and twelve days respectively. Lower feels that this approach is of advantage because it is a comparatively simple method, it affords dependent drainage, avoids an external incision, and shortens convalescence. Shaw adds an additional advantage; that the operation can be performed on extremely ill patients with minimal shock and in relative safety.

Our interest in vaginal ureterolithotomy has been confined to two patients seen during the past few months. The first patient, briefly, was a woman, sixty-nine years of age, who gave a history of having passed innumerable calculi from both kidneys over a period of many years. In fact, in 1923 she was examined in a well-known clinic and found to have multiple small stones in each kidney. At that time the function of both kidneys was found to be normal, with only an occasional pus cell in the urine. Because of her obesity (263 pounds), and her symptomless and normal functioning urinary tract, no operation was advised and she was sent home on a reduction diet. A few months ago she called her home physician, because during the past six months she had been having a chronic ache in the right flank, a low grade fever and a gradual loss of strength and ambition. At this time the patient was found to be still very obese, particularly in the abdominal wall. Her myocardium was damaged but compensating. There was definite tenderness present over the right costovertebral angle. The blood chemistry was moderately elevated with a white blood count of 18,000 and a temperature of 101 degrees. The first thing ordered was a roentgenologic examination of the kidneys, ureters and

bladder, and the diagnosis was obvious, as shown in Figure 1. An unsuccessful attempt was made to get ureteral catheters past this group of calculi. At the time the patient was cystoscoped a vaginal examination was also made and the large calculus was readily palpated.

A vaginal ureterolithotomy was the operation of choice because of several factors; the patient's poor condition, the markedly obese abdominal



Fig. 1. Kidney, ureter and bladder film showing large elongated calculus impacted in lower right ureter and blocking passage of several smaller stones. Several angular stones seen in right kidney.

wall through which the stones must be exposed and a pyonephrotic kidney and a pyoureter drained, the ease with which the stones could be felt through the vagina, the dependent drainage of pus through a less dangerous area, and the minimal shock. A few days later she was operated upon (Maris), under a low spinal anesthesia; fifty milligrams of novocain crystals were used. The technic was similar to that practiced by Lower and Shaw; the cervix was pulled downward and laterally, and a one inch incision was made from the level of the cervix to the lateral wall. The index finger was inserted, the ureter and stone were easily located, and partially freed by blunt dissection. Due to the dense adhesions about the inflamed and dilated ureter it was impossible to bring it into the vagina. It was therefore opened in situ and the stone shelled out. A number of smaller calculi which had been resting behind the large stone then gushed out with about three hundred cubic centimeters of creamy pus. A rubber tissue drain was sutured in the incision, and no attempt was made to close the ureter. The pa-

tient went through an uneventful recovery; her temperature dropped to normal within twelve hours after the procedure. The leakage of the urine from the vagina stopped before she went home on the tenth day. At the present time this patient is doing her own housework and feeling remarkably well, even though we know she has a poorly functioning pair of kidneys with large calculi still present on the right side. Further operative work on the right kidney is not indicated because of the patient's age and her poor general condition.

The second patient was a woman seventy-one years of age, who also gave a history of passing many calculi from each kidney over a period of fifteen years. Her entrance complaint was aching pain over the right flank and more severe pain in the right lower quadrant. Both pains were variable in intensity and had been present for the past six weeks. The pathologic condition is explained by Figure 2. On the right side there were two stones low in the ureter. The upper one was tightly impacted, preventing passage of any ureteral catheter. Larger calculi were visualized in

minor one. If the calculi gave promise of becoming difficult to locate one could always stop early, with little trauma being done to the patient.

Under a small, low, spinal anesthesia and with a ureteral catheter against the lower stone, the usual approach was made (Hicks). Manipulation immediately pushed the catheter back into the bladder, and the only palpable landmark was lost. The catheter was reinserted by means of the cystoscope, but again it slipped out when manipulation was started. It was thought that the ureter could be felt when sweeping the finger laterally and posteriorly but the stones could not be palpated. Because too radical a blunt dissection in this region carries some danger to the bladder, the ureter and the uterine vessels, we decided that under the circumstances, we were not justified in going further. No reaction was experienced by the patient, and in addition, the manipulation apparently dislodged the calculi to some degree, because her right-sided pains disappeared after the operation with reestablishment of drainage down the ureter. She was sent home three days later free of symptoms but with the stones at about the same level. She will be kept under observation, and, if necessary, reoperated upon by the abdominal retroperitoneal approach at a later date.

Basing our conclusions on the cases reported in the medical literature and our admittedly meager, but interesting experience, we feel that in selected cases vaginal ureterolithotomy is the operation of choice. Selected cases may be classed as those patients who are poor operative risks, and who have stones that are of a size and location giving reasonable chance of being found through the vaginal approach. It is not to be doubted that in such cases, this intriguing surgical approach will solve a knotty problem for many surgeons. Furthermore, it seems logical to suppose that as a surgeon gains more experience with the procedure he will find that the above mentioned "reasonable chance" covers a larger percentage of low ureteral stones in women. It must be kept in mind, however, that when stones are small and non-palpable, the difficulties of finding them are markedly increased, and the second case described in this report was included to bring out this weakness and to keep us from becoming over-enthusiastic.

The main criticism to vaginal ureterolithotomy is, of course, the chance of ureterovaginal fistula, and although one often hears this possibility mentioned, no such cases are recorded in recent literature. Many patients on whom this operation has been performed were desperately ill, and the possibility of fistula formation was secondary to the increased chance of saving life. Other rare complications such as opening of the peritoneum, rup-

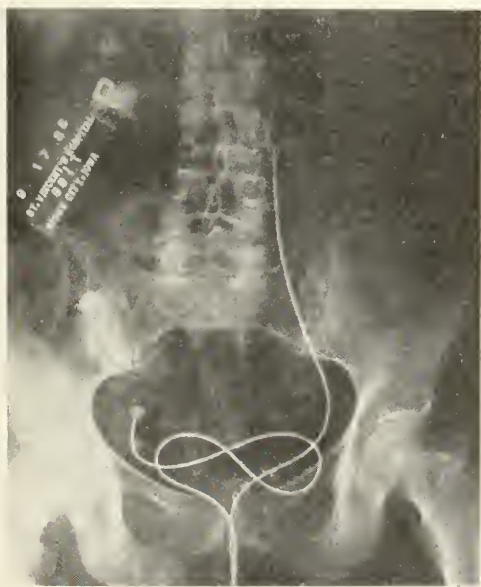


Fig. 2. Kidney, ureter and bladder film with catheters in place showing two calculi in lower right ureter with three larger stones in right kidney.

the right kidney. The left urinary tract was normal. Two days later the position of the stones was still unchanged and a vaginal ureterolithotomy was decided upon, even though one was unable to palpate the stones through the vagina. The choice of this procedure in this instance may be criticized, but the patient was seventy-one years of age, and it was felt that there was a reasonable chance of changing a major procedure into a

turing the base of the bladder, and hemorrhage from uterine vessels are possibilities, but should be avoided by careful exploration.

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SUDDEN DEATH

HAROLD W. MORGAN, M.D., Mason City

The pathologic study of patients who die suddenly is very seldom carried out in our smaller communities. It seems to me therefore that a series of cases of sudden death occurring in what may be called the general practice of ordinary physicians will be of great interest to other physicians in similar communities.

In a series of eighty-five postmortem examinations conducted in the past three years, I have had four cases of sudden death in which autopsies have been performed, and three other cases which may fall slightly outside of the time criteria for sudden death but are interesting in that the mechanisms involved are often present in the first group. The dramatic circumstances surrounding sudden death together with the responsibilities of the physician, make it a rather important group from a pathologic standpoint. For instance, in one of the cases, a physician examined the patient a short time before her death, and had been unable to find any pathology; he had assured the patient that she was in good condition. A second case is even now involved in legal entanglements which only time can settle.

The criteria for a diagnosis of sudden death are somewhat variable. Death occurring almost instantaneously in the midst of good health can be included in this group without controversy. Patients with previously existent pathologic changes definitely recognized, who are apparently enjoying the best health compatible with their pathologic condition, and yet who die within a few hours, can also be included. Other conditions, however, where the explanation of previous existing disease makes the occurrence of sudden death likely, are nevertheless interesting because of the mechanism in-

involved, even though the period of time covered may be open to question when classifying them as sudden deaths. We must, of course, exclude from these cases sudden death from traumatic causes if we are to study the mechanisms of this condition.

The first case which I wish to present at this time is that of a young, white woman, twenty-six years of age, a teacher in the local Junior College. She had diabetes and had been under diabetic management for a period of ten years. However, she was very secretive about her condition and none of her friends, including several nurses in the community, knew of her diabetic condition. A short time before death, she was in the hospital for an upper respiratory infection. The diabetes was discovered in a routine urinalysis. She was discharged from the hospital receiving 100 units of insulin daily including a midnight dose. After leaving the hospital the midnight dose had been discontinued and the insulin reduced to 75 units two days before her death. The patient taught school the day of her death and was apparently normal in every respect. It is known that it was impossible for her to take her noon dosage of insulin. She prepared her evening meal at home. She was found dying in her apartment at 2:30 a. m. No blood was obtained for chemical analysis. A small amount of urine obtained at autopsy contained no sugar. A complete postmortem examination was done with entirely negative findings. A possible explanation of death, although we have absolutely no proof for such a conclusion, is that the patient took an excessive dosage in the evening because of her inability to receive insulin at noon and that we have here a hypoglycemia due to insulin shock. The patient had weathered similar attacks on previous occasions. Candy and sugar were found to be present in her room and purse in anticipation of such reactions.

The second case is that of a graduate nurse, twenty-three years of age. This patient had been told by her physician that her physical examination was entirely negative save for a possible mitral valve defect indicated by a systolic murmur at the apex of the heart. She consulted her physician because of recurrent attacks of collapse and unconsciousness, associated with cyanosis, dyspnea and rapid, feeble pulse (Adams-Stokes Syndrome?). The evening before death, the patient played tennis. She and her roommate went to a late show, after which they talked until about 2:00 A. M. At 6:00 o'clock, her roommate was awakened by a struggling of the patient. She found her unconscious, pulse imperceptible, cyanotic, and she died within five minutes. Postmortem examination, including examination of the brain, was entirely negative. There was no evidence of mi-

tral valvular disease. The conduction apparatus of the heart was apparently entirely normal from a gross standpoint. A sister of this patient died suddenly after recitation in class. Two other children in the family died suddenly in early infancy. The details could not be obtained. On the basis of the previous attacks of unconsciousness and the clinical observations at those times, I have attributed this death to heart block with ventricular fibrillation. Here again, I have no pathologic proof for this diagnosis.

The third case is that of a white married woman, twenty years of age, who died very suddenly after delivery. There was difficulty in expelling the placenta. A large hemorrhage occurred and at autopsy, the uterus was found to be partially inverted, preventing a normal contraction. In this case, death can be attributed to postpartum hemorrhage without fear of contradiction.

Mrs. A. V., thirty years of age, primipara, was delivered with a low forceps procedure of a normal living infant without operative trauma or difficulty. The placenta was delivered and repair done under nitrous oxide oxygen anesthesia. No unusual medication was given before delivery (pan-tapon, nembutal in small doses). As the repair was being completed the patient's pulse became rapid, feeble and she became cyanotic. She was given oxygen, regained sufficient consciousness to complain of manipulations; recovered temporarily, received normal saline intravenously, had a recurrence of the rapid thready pulse, and lapsed into unconsciousness and died. The entire elapsed time from the first appearance of signs of failure was ninety minutes. The blood loss was measured and found to be under 1,000 cubic centimeters. No blood count had been done before delivery. Postmortem examination, including that of the head, revealed no organic cause for death. No embolism, either of air or coagulated blood, was found. The cause of death in this case is to my mind still obscure.

The next two cases may possibly not be counted as sudden deaths, but are nevertheless interesting because of the mechanisms involved. Mrs. H. C., forty-one years of age, had a history of repeated attacks of gallbladder colic increasing to twice weekly in frequency. She was operated upon just before the anticipated time of an attack. The gallbladder was removed and found to contain many gallstones. She responded well following the operation, but on the next evening her pulse rate increased to 170 at the wrist and a pulse deficit was noted when listening to the heart. This persisted for nineteen hours in spite of all efforts to control it and the patient died on the following day. There were no signs of hemorrhage at post-

mortem examination. The gallbladder bed showed no evidence of infection or change other than would result from the recent operative procedure. I have attributed this death to tachycardia with gradual heart failure.

Mrs. D. R., fifty-five years of age, was admitted to the hospital with a diagnosis of ptomaine poisoning after partaking of mushroom soup. She became sick two hours after her noon meal, the day before death, with sudden, severe, epigastric pain, dyspnea and orthopnea, rapid, thready pulse and cold, clammy skin. She was seen by her physician at noon of the day following the onset of the attack. Nausea, vomiting and diarrhea were noted in addition to the other symptoms. She was immediately sent to the hospital where she received morphine with relief of symptoms. She was apparently comfortable until evening of the day of admission when she died very suddenly. She was not seen by her physician after her admission to the hospital and no laboratory work was done. This patient was known to have diabetes. Both breasts had been removed with a microscopic diagnosis of malignancy in one breast five years prior to the present admission. Autopsy was performed on a court order three months after death because of the legal question of mushroom poisoning. The body was in a surprisingly good state of preservation. The only pathologic findings were coronary sclerosis, very marked in the right main branch of the coronary artery, and scarring of the myocardium from previous multiple infarcts. Toxicologic examination and examination of the gastro-intestinal tract, liver and brain substance, revealed no evidence of gastritis. Death was attributed to coronary sclerosis.

Miss O. L., forty-four years of age, gave a ten year history of mitral stenosis, so incapacitating that she was unable to undertake duties requiring physical exertion. She had a sudden attack of cyanosis following venoclysis, but recovered under oxygen therapy. Four days later, a second similar attack occurred and the patient expired. An electrocardiogram taken between the two attacks revealed an inverted T wave, ST segments below the iso-electric line and auricular fibrillation. Autopsy revealed a fish-mouth mitral valve with recent rheumatic vegetations on one leaflet and an antemortem thrombus, two centimeters in diameter, attached by a narrow pedicle to these vegetations which had completely occluded the orifice of the mitral valve. Additional findings were chronic passive congestion of the lungs, liver and left kidney. The right kidney was represented by seven grams of renal tissue, a congenital failure of development being responsible for the small amount of tissue present. The spleen contained

one large infarct changing the form of the spleen to a three-lobed, clover-leaf shaped organ.

These cases are somewhat at variance with the reported statistics in that all seven cases occurred in women while larger statistics give almost a four to one preponderance of sudden death in the male sex.

Hamman of Johns Hopkins University, has recently summarized the natural causes of sudden death. Working with the statistical observations of Bedford, Durck and Koptisch, he draws the following conclusions:

1. Ninety-one per cent of sudden deaths from natural causes are due to diseases of the cardiovascular system; that is, heart failure, hemorrhage, arterial embolism and thrombus.

2. Sixty-five per cent of all cases are due to heart failure; 21 per cent to hemorrhage, and five per cent to arterial embolism.

3. Of the deaths from sudden heart failure, 65 per cent are due to diseases of the coronary artery including syphilitic aortitis; 21 per cent occur with valvular heart disease; ten per cent with myocardial disease; three per cent with cardiac hypertrophy.

4. Syphilis of the aorta is a frequent cause of sudden death; it occurs in 20 per cent of all cases due to natural causes.

Hamman lists the most important natural causes of sudden death and their relative incidence as follows: diseases of the coronary artery including syphilis, 40 per cent; aneurysm of the aorta, 12 per cent; valvular heart disease, 12 per cent; myocardial disease, eight per cent; cerebral hemorrhage, eight per cent; pulmonary embolism, five per cent; pulmonary hemorrhage, five per cent; all other causes ten per cent.

The actual mechanism of death in these cases involving sudden cardiac failure has been observed infrequently, but apparently it is somewhat as follows: there is first the appearance of frequent extrasystoles followed by auricular fibrillation or other changes in the sino-auricular node. Often there is a transference of the pacemaker to the atrioventricular node with the occurrence of ventricular extrasystoles and finally ventricular fibrillation and death from exhaustion of the myocardium. This has been observed in experimental animals and occasionally in human beings. Penati reports death in a patient with combined mitral and aortic valvular disease. The patient was having an electrocardiographic tracing made when she suddenly became pale, deeply cyanotic and, after a few convulsive movements, died. On interpretation the electrocardiographic changes after manifestations of an increased rate gradually de-

creased and slowing of the deflections and finally ventricular flutter occurred.

This presentation of the subject of sudden death is of necessity incomplete, and the value of the statistics is limited because of the few cases in the series. However, the cases are interesting because they have occurred in a general semi-rural practice, and because they illustrate some of the commoner mechanisms operating in these cases. I appreciate that my deductions in some of these cases may be open to criticism, since no demonstrable pathology was present. Our methods for demonstrating pathologic, physiologic and obscure chemical changes, are as yet insufficient to offer any better explanation for the mechanism of sudden death.

THE FINLEY HOSPITAL CLINICOPATHOLOGIC CONFERENCE

PAINLESS JAUNDICE

LAURENCE E. COOLEY, M.D., Dubuque

The differential diagnosis of jaundice is always an extremely interesting problem. The following cases are examples of two types of painless jaundice which are rarely encountered in private practice.

CASE REPORTS

A white male, fifty-two years of age, was first seen November 16, 1934. In May of that year the patient had noticed a yellowness of the skin and a loss of appetite. During the intervening six months before I saw him, his weight decreased thirty pounds and the skin became increasingly yellow. There had been no abdominal pain at any time nor was there any past history of disease of the gastrointestinal tract. There had been no past illnesses. The only significant fact in the family history was that twenty years previously the patient's wife had died of tuberculosis.

Physical examination: The patient was an extremely thin, middleaged male with very marked jaundice of the skin and of the sclera. Examinations of the head, neck, heart and lungs were negative. The liver was enlarged and palpable four fingers below the costal margin in the right mid-clavicular line. The anterior surface of the liver seemed irregular to the touch. There was no evidence of fluid in the abdomen. The gallbladder could not be palpated nor was there any tenderness in that region. The remainder of the physical examination was essentially negative except for the emaciation. Except for the presence of a

large amount of bile, the urine was normal. There was a moderate secondary anemia. The stools contained a normal amount of bile pigments at times and at times they were almost acholic. An x-ray taken of the stomach and duodenum was reported negative. The patient continued to lose weight during the course of the next six months.

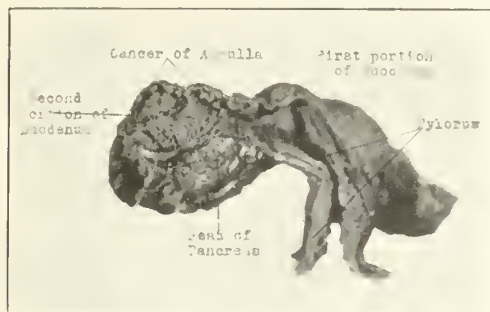


Fig. 1. Photograph of the tumor in the second part of the duodenum.

A few weeks before the patient's death the liver became much smaller. Some ascites and a small amount of edema of the extremities developed. The patient died six months after the first examination. The clinical diagnosis was carcinoma of the biliary tract or head of the pancreas.

The summary of the autopsy of the trunk performed by Dr. F. P. McNamara was as follows: "On opening the abdomen approximately 4,000 cubic centimeters of dark brown fluid are found. Both lungs are adherent in the apices. Small calcified nodules are found in both apices; otherwise the lungs and heart are entirely negative. On opening the duodenum a cauliflower-like growth approximately three centimeters in length and two centimeters in width and height, is found to obstruct the common duct and also the pancreatic duct. (See Figure 1.) The common duct is greatly dilated as are the hepatic ducts and the gallbladder. A few small lymph nodes along the bile ducts are found near the head of the pancreas. On dissection the pancreas is unremarkable. The liver contains numerous umbilicated metastatic nodules varying between two millimeters and one and one-half centimeters in diameter. The liver is intensely stained with bile and on dissection an abscess cavity is found on the left lobe. There are metastatic growths through the cut surface. The rest of the intestinal tract and the genito-urinary tract are entirely negative."

"Several sections of the tumor in the duodenum, the lymph nodes, the liver and of the pancreas were made. The pancreas appeared normal. The sections of the ampulla showed carcinoma cells, which appeared in masses, elongated strands or forming

gland-like structures extending down into the wall of the duodenum. The liver sections showed the neoplasm to be of the same character. (See Figure 2.)"

Anatomic diagnosis: Primary: carcinoma of the ampulla of Vater, obstruction of the common bile and pancreatic ducts, cholemia, metastases to the regional lymph nodes, pancreas and liver, abscess of the liver, and cachexia. Subsidiary: old, healed tuberculosis, left apex."

The second patient was a woman fifty-three years of age, who was seen in consultation October 27, 1935. She gave a history of having had arthritis for a number of years. Two years before the present illness she took a series of injections. Following these injections a very severe exfoliative dermatitis developed. The patient was extremely ill at that time but gradually recovered. From that time until the onset of the present illness the patient had been in fairly good health except for the arthritis. At the onset of the present illness the relatives said that she seemed to have influenza. After the illness had continued one week a doctor was called. The patient had a temperature of 103 degrees and she was very delirious. She was taken to a hospital immediately and under natural light it was noted that her skin was decidedly yellow. The temperature ranged between 102 and 104 degrees during the three days she stayed in the hospital before her death.

Physical examination: The patient was an acutely ill middleaged woman who appeared somewhat restless. Examinations of the head and neck



Fig. 2. Section of the tumor.

were negative. The heart rate was 110; there were no murmurs or irregularities. The lungs were negative. The liver could not be palpated along the right costal margin; the liver dulness seemed to be slightly diminished. Examination of the remainder of the abdomen and extremities was negative. The urine was negative except for the

presence of a large amount of bile and there was a normal amount of bile pigments in the bowel movement. The patient became worse in spite of supportive treatment and died seventy-two hours after admission to the hospital. The clinical diagnosis was acute yellow atrophy of the liver. It was learned from the relatives that the patient had bought fifty tablets of a drug called "farastan" one week before onset of the illness. It is probable that she took about twenty of these tablets during that week. A small piece of the liver was obtained for microscopic examination.

Dr. McNamara's description was as follows: "The specimen is a small piece of liver. There is a distinct degeneration of the central cells. The rest of the nuclei appear darker than the cytoplasm, while the cells at the periphery of the lobules appear quite normal. Occasionally small accumulations of round cells are seen scattered through the sections."

Anatomic diagnosis: Degeneration of the central liver cells.

DISCUSSION

There are many causes of jaundice without pain. Among the various conditions to be considered are intrinsic or extrinsic tumors anywhere along the biliary tract, cirrhosis, abscess of the liver, passive congestion due to cardiac or thoracic diseases causing obstruction of the circulation, jaundice associated with various fevers, poisons, acute and subacute yellow atrophy of the liver and toxemic jaundice of pregnancy. The first case cited here proved to be a carcinoma of the ampulla of Vater. This is a very rare type of malignancy. If an x-ray of the duodenum had been taken shortly before death, the primary tumor would probably have been visualized. The second case was one of cinchophen poisoning. Clinically many cases of cinchophen poisoning cannot be differentiated from acute or subacute yellow atrophy of the liver. This patient gave a history of drug idiosyncrasy as shown by the exfoliative dermatitis.

Many authors have reported cases of death following the use of cinchophen. Bloch and Rosenberg¹ have reported seven cases with four deaths. In one case the patient used "farastan," the same cinchophen preparation which was used in the case reported here. Johnson² reviewed the literature and found reports showing histologic changes in the liver varying from mild degeneration to marked necrosis. Palmer and Woodall³ reviewed the literature and found 191 cases of jaundice following the administration of cinchophen with 88 fatalities, a mortality rate of 46.3 per cent. They have declared that the actual incidence is undoubtedly much higher than the published reports would in-

diccate. They cited instances in which cinchophen had been used over a long period of time without apparent harm until the sudden appearance of jaundice which was followed by dramatic death, while in some cases the administration of very small doses of the drug under careful observation with immediate withdrawal on the first evidence of toxicity nevertheless proved fatal. They concluded, therefore, that there was no safe method for the administration of cinchophen. According to Hench⁴ cinchophen should be used intermittently in cases of gout to avoid symptoms of hyperuricemia (five plus milligrams). He has declared that the risk of cinchophen toxicity is justified, since uncontrollable visceral gout may cause the death of the patient, and that there is less chance of a fatal cinchophen poisoning than of the patient dying from an uncontrolled gout which often attacks the cardiovascular renal system. Hench has not had any fatalities with cinchophen up to the present time. Comfort⁵ pointed out the value of cinchophen in the purine metabolism. He stated that the actual incidence of poisoning must be very small and that it may be used with full knowledge of its occasional reactions after other remedies have been tried and found unsuccessful. He concluded that cinchophen should not be used in patient medicines and should not be sold except under a doctor's prescription.

SUMMARY

Two cases of unusual types of painless jaundice are presented. Mention is made of some of the conditions which enter into the differential diagnosis of painless jaundice. The experiences of several authors with cinchophen is discussed.

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MAYO FOUNDATION LECTURES

A special program of lectures and demonstrations in surgery and medicine will be held under the direction of The Mayo Foundation in Rochester, Minnesota, from April 5 to 9, inclusive. Mornings will be devoted to surgical and medical clinics. In the afternoons and evenings, in addition to clinicopathologic conferences, symposia will be conducted on urology, cardiology, gastro-enterology, dermatology, endocrinology, diseases of the colon and rectum, orthopedics and arthritis. Visiting physicians will be welcome guests.

STATE DEPARTMENT OF HEALTH



SYPHILIS: REPORTING AND DISTRIBUTION OF DRUGS

A copy of the new venereal disease report form, differing in several minor respects from that printed in the February number of the JOURNAL, page 75, was mailed to every physician in Iowa during the last week of February. The following letter accompanied the report form:

IOWA STATE DEPARTMENT OF HEALTH

Dear Doctor:

February 23, 1937

In accordance with the announcement of the program for venereal disease control in Iowa, as published in the February issue of the JOURNAL OF THE IOWA STATE MEDICAL SOCIETY, the State Department of Health is inaugurating this program as approved by the State Society Advisory Committee on Venereal Disease Control.

The facilities for statewide, free diagnostic laboratory service will be available on and after July 1st, next, if pending legislation receives favorable action. If such becomes possible before July 1st, you will be duly notified. Awaiting realization of these plans, the present arrangement with the State Hygienic Laboratories at Iowa City will prevail.

The State Department of Health will supply for each reported case of primary, secondary or latent syphilis, twenty doses (ampules) of neoarsphenamine, and thirty doses of bismuth subsalicylate. Ampules of distilled water will also be included.

When the diagnosis of syphilis has been confirmed by positive laboratory report, the physician should complete the report blank and forward same without delay to the State Department of Health. On receipt of the physician's report of a case of syphilis in one of the above mentioned stages, antisyphilitic drugs will be made available to the physician in either of two ways, as described on the accompanying sheet.

Enclosed herewith is a copy of the new venereal disease report blank, which was adopted at the joint conference held in Des Moines on January 17, 1937. The success of this program is entirely dependent upon the cooperation of the attending physician in faithfully reporting every

case of syphilis, gonorrhea or other types of venereal disease.

With adequate means of finding syphilis through routine laboratory tests and with the active support of physicians in carrying out adequate treatment of those infected, the outlook for effective control of the venereal diseases is most encouraging.

Very sincerely yours,

Walter L. Bierring, M.D.,

Collaborating Epidemiologist and Commissioner.

The article which follows, and which outlines two methods of distribution of antisyphilitic drugs, was mailed to physicians, together with the above letter and the venereal disease report form:

Methods of Distribution of Antisyphilitic Drugs

When reporting a case of syphilis in the primary, secondary or latent stages, the physician is requested to indicate on the report form, conveniently under "Remarks": (1) the kind (name pharmaceutical company) of neoarsphenamine, and bismuth subsalicylate he desires to use; (2) dosage of neoarsphenamine (whether 0.3, 0.45 or 0.6 gram) and, (3) whether he desires to obtain the antisyphilitic remedies by method (1) or method (2) as here outlined:

Method (1): *Distribution Through Your Local "Distributing Pharmacist"*.

If the attending physician desires to obtain antisyphilitic drugs from a pharmacist in his vicinity (whose name appears on a mimeographed list of distributors to be forwarded), the department will promptly mail to the physician a set of "Requisition Blanks", whereby he may obtain from his local "distributing pharmacist" a consignment of ten ampules of neoarsphenamine, a 30 c.c. bottle of bismuth subsalicylate and ten ampules of distilled water. The distributing pharmacist fills out the requisition blanks in triplicate, keeping one copy for his own files and mailing the other two copies to the Iowa State Department of Health, Des Moines, Iowa. About six weeks after mailing the first "Requisition Blanks", the State Department of Health will direct a letter to the physician, enclosing a notice slip which he is requested

to sign and mail to the department. The second consignment of antisyphilitic remedies, like the first in amount, will be made available to the physician by means of "Requisition Blanks" which will be forwarded promptly following receipt of the physician's notice.

Method (2): *Distribution Through State Department of Health at Des Moines*

If the attending physician is not located conveniently to a "distributing pharmacist", he may indicate his desire for antisyphilitic material on the report form, under "Remarks". The first consignment of ten doses of neoarsphenamine and a 30 c.c. bottle of bismuth subsalicylate, together with ten ampules of distilled water, will then be sent directly to the physician from the State Department of Health, Des Moines. About six weeks after the physician has obtained his first consignment of antisyphilitic drugs, the State Department of Health will direct a letter to the physician, enclosing a notice slip which he is requested to sign and mail to the department. The second consignment, like the first in amount, will be made available promptly in accordance with the method of distribution indicated on the notice slip returned by the physician.

In the past, the State Department of Health has maintained a distributing station for biological and other products manufactured by E. R. Squibb & Sons, and will continue to distribute the antisyphilitic drugs of this company in accordance with the present plan, either directly through the department at Des Moines, or through your local "distributing pharmacist".

The department desires to have it definitely understood, that if there is a preference for neoarsphenamine and bismuth subsalicylate, as manufactured by some pharmaceutic company other than F. R. Squibb & Sons, and such preference is stated when reporting the case, the same plan of distribution will prevail as above outlined.

The "Requisition Blank" and "Notice of Second Consignment of Antisyphilitic Drugs" mentioned in the above paragraphs, appear as follows:

County _____ Date _____

REQUISITION—For Antisyphilitic Drugs for Case No. _____

Iowa State Department of Health, Des Moines, Iowa.

Gentlemen:

Kindly furnish to the undersigned the following antisyphilitic drugs:

Neoarsphenamine ☐ 3 gm. ☐ .45 gm. ☐ .6 gm.

Bismuth subsalicylate ☐ 30 c.c.

Distilled water ☐ 10 Ampules

Check in
Squares
the Ma-
terial Ob-
tained

Total amt.
of arseni-
als must
not exceed
10 ampules

Through _____

(Name of Distributing Pharmacist) (Address of Distributing Pharmacist)

I have obtained the above antisyphilitic remedies as manufactured by ☐ E. R. Squibb & Sons, or ☐ other _____

(Name of Pharmaceutical Company)

Signed: _____

(For) _____ M.D., Address _____

MAIL BLUE AND WHITE FORMS TO IOWA STATE DEPARTMENT OF HEALTH, DES MOINES, IOWA

MAKE CLEAR CARBON COPIES

NOTICE

FOR SECOND CONSIGNMENT OF ANTISYPHILITIC DRUGS
Iowa State Department of Health,
Des Moines, Iowa.
Gentlemen:

I desire the following for Case No. _____

☐ Requisition blanks for second consignment of antisyphilitic drugs to be obtained from my local "distributing pharmacist."

☐ Consignment through State Department of Health, Des Moines. I desire products manufactured by ☐ E. R. Squibb & Sons, or ☐ other _____

(Name of Pharmaceutical Company)

Date _____ Signed _____

Address _____

NOTE: MAIL TO STATE DEPARTMENT OF HEALTH, DES MOINES, IOWA.

The effectiveness of the renewed attack on syphilis is vitally dependent upon the collaborative efforts of each and every attending physician. Victory in this fight depends also on factors such as the finding of new cases through routine examination and special (blood) tests; prompt reporting to the State Department of Health; ready access to antisyphilitic remedies; and thorough treatment of all infected persons.

CONVALESCENT SCARLET FEVER SERUM;
STATE DEPARTMENT OF HEALTH
PROCESSING SERUM

During the last week of February, the State Department of Health began the processing of convalescent scarlet fever serum in its own serum center. The serum laboratory, recently completed, forms part of a new structure which adjoins the main building of the State Department of Health, and houses the divisions of preventable diseases, industrial hygiene and public health engineering.

Convalescent scarlet fever serum has been distributed to physicians throughout the winter months, as one of the means of combating scarlet fever, which is prevalent in epidemic form in many parts of the state. Donors in Sioux City, Waterloo, Decorah and Des Moines have, during the past several months, contributed blood for convalescent or immune serum. The amount of serum heretofore available has been very limited.

Shortly after the middle of March, the Iowa State Department of Health will begin to distribute convalescent serum of its own processing. Because the serum is limited in amount, its use will necessarily be largely reserved for patients suffering from the severe or moderately severe form of scarlet fever. Physicians desiring to use convalescent scarlet fever serum may send a telegram or telephone to the State Department of Health at Des Moines. The telephone number is 4-9111, Extension 137. After 5:00 P. M. on week days, after noon on Saturday, or on Sunday, calls to the State Department of Health for convalescent or human immune serum will be given attention through the following telephones in Des Moines: 7-1417, 6-1696, 5-0453 or 4-5331.

(Continued on page 135)

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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THE CAMPAIGN AGAINST CANCER

The most serious problem confronting the medical profession today is cancer. In the United States there are 500,000 cancer patients, of whom 135,000 die annually. Since the beginning of the century, there has been a marked increase both in total deaths and death rates from this malignant disease. In 1900 cancer occupied sixth place as a cause of death with a death rate of 63 per 100,000 population. Today, cancer ranks second as a cause of death, with a death rate of 106 per 100,000 population. In Iowa alone there are 10,000 cancer patients each year, and of these, 3,000 die. The mortality rate is steadily rising, and at present approximately one out of each eight deaths in Iowa is caused by cancer.

There has been considerable argument among statisticians as to whether the increase in cancer is real or apparent. The question is largely an academic one. It is well known that better diagnoses and the marked prolongation of life resulting in a larger percentage of the population reaching the "cancer age", are important factors in the apparent increase. On the other hand, it is admitted, that aside from the above factors, certain forms of cancer, notably that of the lung, have markedly increased. Whether the increase is apparent or real, the fact remains that with the exception of the degenerative diseases and diabetes, cancer is the one major disease that has not shown a steady decrease in morbidity and mortality rates during the last quarter of a century. The important thing is that too many cancers are seen in the late stages only, at a time when cancer is incurable. Time is the essence of the successful treatment of cancer. Treated early and efficiently, cancer is curable. Many patients and sometimes doctors delay treatment, largely because of pessimism, fear, ignorance, or misinfor-

mation. This, of course, results in the rise of the cancer death rate which will continue to rise unless some effective method of control is attained.

The great need is to replace pessimism, fear, ignorance, or misinformation with conservative, proved facts of cancer which are approved by competent medical authority. Misinformation given by quacks and charlatans must be replaced by accurate, correct information from the medical profession. Above all, it is necessary indelibly to impress upon the minds of both the profession and the laity, the fact that many cancers are curable if they are detected early and adequately treated. The public must learn the early signs and symptoms of cancer, and must learn to act upon that knowledge. The medical profession must be prepared to render correct diagnoses, and to give the proper treatment in each particular form of cancer. Realizing all this, the present cancer educational program has been inaugurated as a most effective method of cancer control.

The program has been inaugurated by the Women's Field Army which is sponsored by the American Society for the Control of Cancer. This organization will have divisions in every state, and each state division will be subdivided into district and county units. A state commander with district vice-commanders, county captains, lieutenants and sergeants, will be the officers of the enlisted personnel. Every woman is eligible to membership and men may join as contributing members. Each unit of the state division will cooperate with a respective unit of the Iowa State Medical Society, i. e., the executive cancer committee, the councilors, deputy councilors, county cancer chairmen, or with other committees appointed by the county medical societies. The medical unit will control the activities, act in an advisory capacity, and furnish speakers upon the request of representatives of the Field Army. The latter will arouse interest among women, raise funds for the educational program through an annual enlistment drive and arrange for meetings, motion pictures, special exhibits, as well as distribute literature. Seventy per cent of all funds collected in Iowa will be utilized to further the educational program in Iowa.

The Iowa Cancer Committee consists of the members of the council with Dr. D. J. Glomset, Dr. E. D. Plass, and Dr. F. P. McNamara, who represent the Speakers Bureau, the State University of Iowa College of Medicine, and the American Society for the Control of Cancer, respectively. The executive cancer committee consists of Drs. McNamara (chairman), Erskine, and Plass. The latter committee carries out the policies and activities outlined by the larger committee. Each councilor and his deputy councilor have

general supervision of the cancer control work in their district or county and appoint county cancer chairmen, who direct the cancer control work in the county. The Speakers Bureau cooperates by arranging postgraduate courses on cancer, by aiding in publicity, and by supplying speakers for lay or professional groups. Thus a statewide organization has been set up and gradually its effectiveness in the control of cancer should become evident.

The executive cancer committee believes that the key to improvement in the cancer mortality rate is in the hands of the general practitioner. The fate of the cancer patient depends to a great extent upon the diagnosis made and the advice given at the first visit. The family physician must learn to recognize all pre-cancerous lesions, as well as early cancer, because with the development of the educational program patients will present themselves with just such lesions rather than with the late manifestations of cancer. Having made a diagnosis, it is obvious that the general practitioner must be familiar with the correct form or forms of treatment, if he is to give his patient correct advice. In order to aid every doctor in Iowa in making early and correct diagnoses and to familiarize him with improved methods of treatment, members of the cancer committee in conjunction with the medical faculty of the State University of Iowa College of Medicine have prepared a manual giving these facts in an easily accessible manner. This manual will be sent to every physician in Iowa and should be an inspiration to every alert physician, who desires to keep abreast of the advances in cancer diagnosis and therapy.

Thus the foundation has been laid for an effective cancer control program in Iowa. At this time there is a great need for an intensive effort to arouse public interest in the cancer problem and above all to educate the lay public in the relatively simple signs and symptoms which may indicate early cancer. Ultimately, we must teach the public the value of periodic health examinations in the prevention and detection of cancer, especially in the latter half of life. The Women's Field Army and the Iowa State Medical Society are in a position to carry out such a campaign of education. To do so effectively they must have the sympathetic understanding and cooperation of every general practitioner in Iowa. In other words, the success of the cancer control program depends not on our officers and committees or upon the Women's Field Army, but upon the general practitioner. Twenty-five years ago the attitude toward tuberculosis was equally as hopeless as that against cancer today. At that time enlightened professional and lay groups in Iowa united in an educational program which has reduced the tuberculosis mortality rate

seventy-five per cent. Similarly, cancer must be controlled by the full utilization, on the part of both the profession and the laity, of the knowledge we now possess in regard to the disease. We believe that when this is done the cancer mortality rate will be reduced thirty to fifty per cent, a saving of 1,200 to 1,500 lives annually in Iowa.

LINN COUNTY MEDICAL SOCIETY UNDERTAKES PIONEER WORK IN CANCER RECORDS

At the meeting of the Linn County Medical Society on February 11 it was pointed out that those who have followed the work of Dr. Maud Slye, of Chicago University, during the last quarter of a century are bound to be impressed with the necessity for active, practical application of the results of her observations. Reduced to its simplest possible form, Dr. Slye's theory of the inheritability of cancer explaining both the occurrence of malignancy and its location, is that there is one unit recessive genetic factor for each type of malignancy, carcinoma, sarcoma, and leukemic disease; and that there is also one unit recessive genetic factor for each location of malignancy, such as the breast, the stomach, or the lip. The occurrence of breast cancer, for example, would therefore require two unit recessive factors, one for malignancy of the epithelium and the other for its location in the breast.

If Dr. Slye's theory is sound, she should be able to breed carcinoma, sarcoma, leukemia, or any combination of them, into families of mice, and she should be able to control the location of these diseases. Furthermore, she should also be able to prophesy as to the number of cases of these different varieties of malignant diseases and their combinations to be expected in a given number of individuals, and she should be able to state not only what the mathematical expectancy of such tumors will be, but also where they will be located. This is exactly what she has done, and her mathematical demonstrations have coincided so exactly with the theory that it must be accepted as proved. Rarely does a scientist succeed in reaching a prime goal with such completeness. Yet we must not permit close application to the minutiae of Dr. Slye's results to prevent us from fully appreciating the importance of her fundamental theory. Certain other biologists disagree with Dr. Slye in various details. Medical men, especially those who are interested in methods of reducing the cancer death rate, are not particularly concerned with minor differences of opinion about the theory, nor are they greatly interested in the quarrels of biologists. They are,

however, becoming aware of the fact that her work has now assumed tremendous practical importance.

What is that practical importance? It is that these findings should be applied to human families so that ultimately cancer may be bred out of the human race as Dr. Slye has bred it out of mouse families for what, in terms of human life, would amount to more than 3000 years. This could be accomplished by the same amount of attention to the mating of individuals with cancer in their families as is now paid by intelligent people to idiopathic epilepsy.

The first essential in such a project is the keeping of adequate family records. The task of keeping such records is a tedious, painstaking, rather intricate procedure, but is not beyond the abilities of any physician sufficiently industrious and intelligent to practice his profession. Briefly, such records include the following data:

1. Hereditary data.
2. Data concerning the patient.
3. Data concerning the neoplasm as an entity.
4. Data bearing on the external cause of cancer in whatever organ it may occur.

For the foregoing reasons it was proposed that the Linn County Medical Society should be the *first* medical organization in the United States to adopt a plan for keeping adequate cancer records. A motion was passed authorizing the expense of printing and filing blanks, urging the members of the Society to cooperate in the undertaking, and appointing Dr. F. W. Mulsow as the official custodian of the records. Dr. Mulsow is the physician-chairman for Linn county in charge of the experiment in lay and professional education in cancer, which is being promoted by the Cancer Committee of the State Medical Society, with cooperation of the American Society for the Control of Cancer.

A. W. Erskine, M.D.

NORTHWEST MEDICAL CONFERENCE

On Sunday, February 14, the tenth annual meeting of the Northwest Medical Conference was held in Chicago. A full day's program had been arranged by the officers, beginning at 8:30 in the morning, at which time approximately fifty physicians met for breakfast.

Upon adjournment of these doctors to an adjoining room, the actual program began and the attendance increased. The peak during the day was around 150, which is believed to be a record attendance at the conference meetings, and is an indication of the growing interest in such programs.

The purpose of the Conference was well ex-

pressed in the opening remarks of the president, Dr. W. F. Braasch of Rochester, Minnesota, who defined it as a desire for an interchange of ideas between the members of the medical profession in the northwest, particularly in regard to matters of medical economic interest. The morning program was devoted to two symposia, one on the subject of postgraduate medical education and the other pertaining to the general field of education along the lines of medical economics. Dr. R. L. Sensenich of South Bend, Indiana, opened the first symposium by giving a resumé of the facts on this subject which had been secured by questionnaires sent to each state medical society by the American Medical Association. This summary was highly illuminating as regards the extent to which postgraduate medical education is being offered in the various states. While the questionnaires revealed a wide diversity of opinion regarding the best type of courses, methods of their conduct, financing, location, etc., there was a decided unanimity of approval expressed as to the results. Following this summary, Drs. Harold S. Diehl of Minneapolis, Minnesota, M. H. Rees of Denver, Colorado, S. D. Maiden of Council Bluffs, Iowa, and J. D. McCarthy of Omaha, Nebraska, gave brief outlines of the particular type of postgraduate work which has been most outstanding in their particular localities.

The symposium on medical economics was opened with a dynamic talk by Dean E. J. Carey of Marquette University School of Medicine. He pointed out the place and the value of a course in medical economics for the medical student. He showed that while a review of the methods of big business and industry are helpful, the physician should not barter his code of ethics for that which business claims it can offer because it is true that at the present time business men themselves are trying to develop a code of ethics.

William J. Burns, Executive Secretary of the Michigan State Medical Society, then outlined a few of the points which he deemed important to be taught in a course on medical economics. A few illustrations from his own experiences in teaching this subject to medical students proved most interesting. Dr. E. S. Hamilton of Kankakee, Illinois, closed the symposium with a brief discussion of methods by which the Illinois State Medical Society tries to interest and inform its members in this important field.

The Conference was honored by having several of the officers of the American Medical Association present. Dr. West brought the greetings of the American Medical Association office and extended a cordial invitation to all to visit the national headquarters and see the work which is

being done. In commenting on the various subjects on the program, he stated it was his personal opinion that much of what is classified as medical economics is not economic in nature, but constitutes problems of medical ethics, some of which must be dealt with on that basis.

Another point brought out by Dr. West was in connection with the proposal of the President of the United States to develop a new department to be known as the Department of Social Welfare. The Board of Trustees of the American Medical Association had adopted a statement, transmitted to the President, to the effect that it was the consensus of the Board if any new department was to be established to deal with medical and public health affairs, it should be a Department of Health rather than a Department of Social Welfare in which public health matters would be relegated to back seat importance. He went on to say that several state medical associations had transmitted to their members of Congress an expression of support of this action taken by the Board, and that he believed it important for all state societies to make their position in this matter known to the Congressmen of their states.

Dr. Fishbein gave a very interesting discussion of the importance of such programs as this Conference and the appalling lack of interest in medical economics among the majority of members of the profession. He told of the ways in which the American Medical Association had tried to cultivate this interest, through special bulletins and now through a special section in the *Journal of the American Medical Association*. He stressed the fact that the average physician will soon have to interest himself in these matters in order to answer the questions of his friends, patients, legislators, etc., who are interested.

In his presidential remarks following the luncheon, Dr. Braasch talked at greater length concerning the aims and ideals of the group. He stated that this Conference reflected the superior organization and activity of those states included in the Conference, and urged that information regarding medical economics be more widely disseminated and in a more popular vein in order to attract the interest of the physicians. He expressed the feeling that the state medical journals could be of great assistance in this project.

The afternoon program opened with a talk on hospital insurance, given by Dr. James L. Smith of Peoria, Illinois. Dr. Smith gave his talk from the viewpoint of one who has lived in a community in which such a scheme was working very satisfactorily for all concerned. One of the reasons for the success was that all of the hospitals in the community were part of the plan.

The symposium on the afternoon program was on the subject of social security activities and was opened by Mr. Charles S. Nelson, executive secretary of the Ohio State Medical Association, who gave a summary of questionnaires which he had sent to every state medical society concerning such activities in that state. He gave a brief summary of the facts gleaned from the questionnaires and then distributed a printed pamphlet which contained the more detailed reports of such activities in the various states. Drs. A. W. Adson of Rochester and A. D. McCannel of Minot, North Dakota, presented a brief outline of certain phases of the social security activities being carried out in their respective states. The discussion of the resettlement program in North Dakota proved very timely since several states represented in the Conference group are at this time considering proposals for such a program. The Conference was privileged in having Dr. R. L. Williams, medical director of Rural Resettlement Administration, and Dr. Wm. C. Woodward, director of the Bureau of Legal Medicine and Legislation of the American Medical Association, present to join in the discussion of this problem. Iowa is one of the states in which negotiations are being made for the adoption of a medical policy for the resettlement program in effect in the state.

The next subject for discussion was that of the venereal disease program as developed in Kansas, presented by Dr. Arthur D. Gray of Topeka. Dr. Gray outlined the three main points of the project, which included a professional program for the education of the physician in this field, a lay program providing for the education of the laity and the guidance of their activities, and an economic program designed to build a sound, practical, standardized plan of venereal disease control in Kansas, in keeping with the needs and resources of the people and the state.

The session was brought to a conclusion by a talk on State Boards of Health presented by Dr. Frank Jirka of Springfield, Illinois. Dr. Jirka pointed out the need for cooperation between the State Board of Health and the members of the medical profession, the means by which such cooperation could be effected, and the resulting good to the general public from such cooperation.

The report of the nominating committee was accepted, thereby electing as officers of the 1938 Conference, Dr. R. L. Sensenich of South Bend, Indiana, as president, and Dr. Carl F. Vohs of Kansas City, Missouri, as secretary. The Executive Board of the Indiana State Medical Society asked for the privilege of acting as the host state at the 1938 meeting to be held in Chicago.

The entire conference was of intense interest and

value. Representatives from all but four of the extreme western states of the group were present. Iowa was well represented and had every reason to feel that it had been successful in its rôle of the host state at the 1937 Northwest Medical Conference.

INCOME TAX RETURNS

Federal Income Tax

Since federal income tax returns must be made on or before March 15, 1937, to the Collector of Internal Revenue of the district in which the individual resides, it is assumed that the members of the Iowa State Medical Society have already filed these reports. If this has not yet been done, it is hoped that this article may serve as a reminder that only a few days remain in which this return may be filed. It is not deemed necessary to review in detail the provisions of the federal income tax law, since in most respects returns will be computed in the same manner as for the previous year. We believe it will suffice to call attention to the one significant change in provisions, namely, that the regulations now provide that dividends received on stock are now subject to both the normal tax and the surtax. Previously such dividends were subject to the surtax only.

State Income Tax

The state income tax return is due and payable, on or before the ninetieth day following the close of the taxpayer's taxable year, at the office of the Iowa State Board of Assessment and Review, Income Tax Division, Des Moines Building, Des Moines, Iowa. We shall not attempt to review all of the provisions of the state income tax law but shall point out a few pertinent facts which may be of help in filing this return.

Attention should first be called to the fact that the state income tax return may now be computed on either a cash basis or an accrual basis, depending upon the actual method used in keeping accounts. Whichever method is used must be maintained throughout the return. In the event that the cash basis is used, it might also be pointed out that if physicians are collecting money for services rendered prior to the year 1934, those amounts should not be included in the report, since that represents income which is not taxable, such provisions having been non-existent until 1934.

Questions have been asked by some physicians as to whether or not compensation which they have received from federal or state governments in payment of their services for medical relief work was

a deductible item. We have been advised by the Bureau of Assessment and Review that such items are taxable.

Section 126 of the state income tax regulations summarizes in a very concise manner the provisions relative to professional expenses and in a general way answers most questions that might arise. For that reason, we are quoting it here in full:

"Article 126. Professional expenses. Professional men such as doctors, lawyers, dentists, teachers, accountants, etc., may claim as deductions the cost of supplies used by them in their practice, expenses paid in connection with the operation and repair of automobile used in making professional calls, dues to professional societies, subscriptions to professional journals, rent paid for office rooms, fuel, light, heat, water, telephone, and all ordinary and necessary expenses connected with earning of taxable income. Costs of attending professional conventions and clinics are not allowable deductions. Amounts paid for professional equipment and instruments of small cost, the life of which does not extend beyond one year, may be deducted from gross income in the year of purchase. The cost of other equipment, including books, is not allowable as a deduction, but will be subject to a proper allowance for depreciation. Where a professional man rents a property for residential purposes, but incidentally receives there, patients, clients or callers in connection with his professional work (his place of business being elsewhere) no part of the rent is deductible. If, however, he uses part of the house for his office, such portion of the rent as is properly apportionable to such office is deductible."

While the section quoted above states that dues to professional societies are deductible, Article 131 qualifies that statement, as follows: "*Dues and subscriptions paid to trade organizations, chambers of commerce, professional societies, and other organizations from which the taxpayer derives a direct business benefit are allowable deductions, provided such organizations do not include in their activities anything tending or intended to influence legislation.*" These two apparently conflicting statements are mentioned in the event that they may have caused some confusion as to what policy to follow in this connection. We have been advised by the income tax division of the Bureau of Assessment and Review that Article 131 applies to those organizations whose dues are assessed for the main purpose of maintaining a paid lobbyist at the state legislature. We have been advised that dues for a professional organization such as the Iowa State Medical Society are deductible.

The Present Status of the Medical Social Security Programs in Iowa

Feeling that many interested readers of the JOURNAL are unfamiliar with the medical phase of the Social Security Act as it is being conducted in Iowa, an attempt has been made in the following paragraphs to present the essentials in the programs being carried out under the provisions of Titles V and VI.

PART I. MATERNAL AND CHILD HEALTH SERVICES, AND PUBLIC HEALTH SERVICES

Under the provisions of the Social Security Act, the state of Iowa participates in federal grants, first, for maternal and child health services (Title V, Part I), and second, for public health services (Title VI). While these grants are received through two agencies, the Children's Bureau of the United States Department of Labor, and the United States Public Health Service, they have been applied as far as possible for a single program, carefully correlated to avoid over-emphasis on any part and relative neglect on the other. The administrative state agency is the State Department of Health, directed by Dr. Walter L. Bierring, Commissioner.

1. *Maternal and Child Health Services*

The total grant allotted to Iowa for the fiscal year ending June 30, 1937, is \$64,511.99, of which \$55,090.03 requires matching by state and local public health funds. Since only \$42,330.34 of such funds were available for matching, the amount of \$51,755.30 was approved for the annual budget. Since these funds have become available, the administrative staff has been enlarged by the addition of a full-time pediatrician and dentist, a director of maternal and child health nursing, and two public health nurses for local field service. Realizing that the fundamental purpose of these grants is educational, the following have been inaugurated: first, refresher courses in pediatrics and obstetrics, arranged with the cooperation of the Speakers Bureau of the Iowa State Medical Society, and conducted by Iowa physicians for Iowa physicians; second, maternity institutes for public health nurses, arranged in the different cities of the state, and usually of three days' duration each; and third, motherhood classes for all mothers, conducted by the director of maternal and child health nursing, and assistants, with the pediatrician and dentist participating. This budget also provides for a part (one-fourth) of the salary and travel of each county public health nurse, and (one-half) of the salary and travel of the supervisory district public health nurse engaged in the

work of the health districts which are being established throughout the state.

2. *Public Health Services*

The total grant allotted to Iowa for the fiscal year is \$193,479.00, of which \$112,226.00 requires matching with state and local public health funds. Since only \$66,204.00 of such funds were available for matching, an annual budget of \$149,457.00 was approved. Under the provisions of this budget the central administrative staff was enlarged by adding the following personnel: director of local health services, director of industrial hygiene, assistant director of preventable diseases, assistant director in charge of venereal disease control, assistant director in charge of tuberculosis control, assistant director of public health nursing, assistant director of vital statistics, rural and milk sanitary engineer, chemical engineer in industrial hygiene, three medical directors for county health units, two health district medical directors, three county public health engineers, two district supervisory public health engineers, two health district supervisory public health nurses, and eleven county public health nurses. A financial secretary and a number of clerical assistants have also been added. The following trainees are entered in the several public health training centers: eight medical directors, one industrial hygiene engineer, eight public health engineers, twenty-three public health nurses, and one vital statistician.

Since the federal funds have become available, county health units have been established in Woodbury, Washington and Des Moines counties. In the further extension of local health services, it has seemed more practicable to divide the state into districts, each district being composed of four or more counties. Health District No. 1, composed of Lyon, Osceola, O'Brien, Sioux, Plymouth, Cherokee and Monona counties, has been in operation since December 1, 1936. A second district is being organized in counties adjoining this district, and further districts are in the process of formation. Except for one-half of the salary and travel expense of the county public health nurse, which is provided by the local community, the salaries and travel expense of all personnel, including clerical assistance is provided from federal funds.

A venereal disease control program is now being inaugurated in accordance with the plan approved by the special committee of the Iowa

State Medical Society. It is further planned to develop a program of state tuberculosis control in cooperation with the Iowa State Tuberculosis Association.

3. *Additional Physical Equipment*

A supplemental budget of unexpended funds for the fiscal year 1936, permitted the construction and complete equipment of a research laboratory for industrial hygiene and preventable diseases, particularly for the preparation of scarlet fever, measles, and poliomyelitis convalescent serum. The Division of Vital Statistics has been able to install the latest modern punch card equipment, consisting of an electric key punch tabulating counter, sorter, and alphabetical index machine, which will greatly facilitate all reporting of births and deaths, as well as disease conditions.

The Iowa Social Security program will permit the extension of public health work into new fields, and the expansion of existing activities. A new era in public health is developing; one of great import to human welfare.

PART II. SERVICES FOR CRIPPLED CHILDREN

The official state agency for this division is the State Board of Education; the program has been formulated and is under the administration of the College of Medicine at Iowa City. The term "crippled children" for the Iowa program includes not only orthopedically crippled children but also children with certain chronic medical conditions, such as diabetes, and heart disease. Dr. Arthur Steindler has been designated as director of orthopedic services, and Dr. Philip C. Jeans as director of pediatric services. The Social Security Act states that this appropriation of federal funds is "for the purpose of enabling each state to extend and improve (especially in rural areas and in areas suffering from severe economic distress), as far as practicable under the conditions in such state, services for locating crippled children, and for providing medical, surgical, corrective, and other services and care, and facilities for diagnosis, hospitalization, and aftercare, for children who are crippled or who are suffering from conditions which lead to crippling." It should be emphasized, therefore, that this part of the Act, makes no provision for educational work or rehabilitation.

1. *Aims of the Program*

Those in charge of this division have outlined the following goals which they hope to accomplish in the crippled children's program under the Social Security Act for the state of Iowa.

1. To extend convalescent services.
2. To place orthopedic field nurses in rural sections of the state.
3. To conduct diagnostic clinics in rural areas in cooperation with the Iowa State Medical Society and the various component county societies.
4. To cooperate with public health, maternal and child health, and child welfare services in the state.
5. To extend convalescent care and follow-up work, with instruction to parent or guardian for the proper care, and assist physicians when requested.
6. To locate crippled children.
7. To aid the State Board of Health in the prevention of crippling conditions.
8. To develop follow-up services for children with cardiac and diabetic conditions.
9. To develop, in cooperation with the State Department of Health, a central reporting system and a continuous file.
10. To maintain a central office to receive, tabulate, and analyze reports from the field workers, to maintain the file and to prepare literature for public information.
11. To aid the State Board of Health in establishing a registry of birth injuries and congenital defects, as an addition to the birth registry.

2. *Method of Administration*

Medical, surgical and hospital care will be provided, so far as funds are available, for any indigent child under sixteen years of age, who is of sound mentality, and who is crippled or is suffering from a condition that may lead to crippling, and which can be remedied by such medical, surgical and hospital care. Field nurses with special training in orthopedics and pediatrics will be sent into rural areas. Their duties will be to cooperate with the local physicians, and upon the request of the physicians, to make home visits, and to assist local public health nurses, social workers and all others interested in aiding the crippled child. Field nurses will be available on call of the attending physician to visit the home and instruct the family on the proper care in the after-treatment of the crippled, diabetic, or cardiac child.

Diagnostic and follow-up clinics will be conducted at strategic points in each of the eleven councilor districts. Recognized orthopedists, pediatricians or other qualified physicians of the state of Iowa, selected by the county medical societies, will conduct these clinics. All cases at the clinic will be examined only by the orthopedist selected by the representatives of the county medical societies, unless otherwise requested by the referring

physician, except those cases previously treated in the orthopedic clinic of the Children's Hospital at Iowa City. All recommendations and reports are to be sent to the referring physician, and he shall determine if, when, and where recommended treatment will be carried out. The director of the orthopedic services or his authorized assistants will examine all cases previously treated in his clinic for qualitative evaluation of the results obtained by this treatment. These physicians selected by the county societies to conduct the clinics are to be paid at the rate of three dollars per hour for each physician, and traveling expenses at the rate of five cents per mile and hotel expense.

A twenty-five bed convalescent home at Iowa City will be operated in a building to be furnished and equipped by the College of Medicine of the State University of Iowa, from funds outside this budget, to extend hospital services, after-treatment, etc. Physiotherapists and other trained personnel will be provided. Educational facilities in this home will be cared for outside this budget. Convalescent care in boarding homes on a per diem basis (not to exceed one dollar per patient day) will be provided in local communities when, in the judgment of the director of the services, this is to the advantage of the patient. This service is to be primarily for rural children where the home conditions are such that the child cannot receive proper care and supervision after discharge from the hospital, and is to be employed only when, in the judgment of the director, the child no longer needs the full services of the hospital or convalescent home. The length of the service is to be determined by the director, within the limits of available funds. Limited medical care for these children will be provided by local physicians at a fee not to exceed two dollars per call. The number of calls will be determined by an agreement between the director of services and the local physician; this applies only to the care and treatment of the condition for which the child was committed. In addition, a physiotherapist will be assigned to the Junior League Convalescent Home in Des Moines, at a salary of \$1,200.00 a year.

The pediatric phase of the program for crippled children is in the process of formation, details of which are not yet available for publication. As previously indicated, this part of the program will deal with crippled children or those suffering from conditions which may lead to crippling, other than orthopedic in nature.

PART III. CHILD WELFARE SERVICES

Under the Social Security Act the state of Iowa has been granted \$37,325.37 to be used for the

protection and care of homeless, dependent and neglected children and for children in danger of becoming delinquent. These funds have been received from the Department of Labor, and the project is under the administration of the United States Children's Bureau. The money is to be used primarily to improve conditions of children residing in rural areas and in areas suffering from severe economic distress. The plan, which has been approved by the United States Children's Bureau, was formulated by Dr. Mae Habenicht, superintendent of the Child Welfare Bureau, and is under her direct supervision.

These child welfare services include the following: arranging for foster homes or institutional care for children who need care away from their own homes for a temporary or permanent period; protecting neglected children and those suffering mistreatment; securing the necessary attention for deaf, blind, crippled, and diseased children who are not receiving the care, treatment, or training that their condition requires (it should be understood that there are no provisions in this portion of the Act for medical treatment of any kind); arranging care or training for the mentally defective child; assisting unmarried mothers in plans for confinement and in plans for the child; assisting the courts by investigating complaints and supervising children who have been placed on probation; assisting schools in handling attendance or conduct problems; organizing community activities for the prevention of juvenile delinquency or cooperating with existing organizations in this field. The objectives of the Iowa program are to stimulate and promote standards of child care in rural Iowa; to make available child welfare services to every rural county in the state; to cooperate in organizing child welfare services where there are none, if the counties desire these services and are willing to participate in the expense; to give direct case work service, when requested, to juvenile courts in rural areas for cases involving neglect, dependency, custody, and delinquency; to organize a training program to help Iowa social workers in their desire to have a better understanding of child welfare principles and technics; to discover, by means of child welfare services, what specific needs there may be for further child welfare legislation.

To carry out this program, the state has been divided into four districts with a children's service worker in each district. Tentative district headquarters are Ottumwa, Waterloo, Fort Dodge and Atlantic. In each district there is to be a demonstration unit of one or more counties with a trained child welfare worker carrying out an intensive program in each unit. Demonstration

units are now in operation in Hamilton and Monroe counties. A third part of the Iowa plan is a mobile mental hygiene clinic which will study and work out plans for children who present special difficulties to local workers in rural counties.

PROPOSED AMENDMENT TO WORKMEN'S COMPENSATION ACT

We would direct our readers' attention to Senate File No. 24, a bill recently introduced in the Senate, proposing to repeal that section of the present Workmen's Compensation Act which imposes a limit of \$300.00 as the total amount to be expended for treatment of injuries compensable under the provisions of this Act. This bill has also been introduced in the House as House File No. 117.

The Iowa Workmen's Compensation Act at the present time, places a \$300.00 limit, and all medical, surgical and nursing service, as well as all hospitalization, must be covered by this amount. In the event that the total amount expended exceeds this limit, the Industrial Commissioner is required to prorate this \$300.00 among the claims for doctors, nurses, ambulance, and hospitalization. The proposed amendment would remove this limit and stipulate only that the employer "shall furnish *reasonable* surgical, medical, nursing and hospital services and supplies therefor, including crutches, apparatus and artificial members, or any other appropriate treatment." It is believed that the employer is adequately protected against excessive claims by the following portion of the amendment: "Charges believed to be excessive may be referred to the Industrial Commissioner for adjustment under authority of Section 1462 of the Code; and all fees and other charges for such treatment shall be limited to such charges as prevail in the same community for similar treatment of injured persons of like standard of living."

Your Legislative Committee feels that this proposed change in the Workmen's Compensation Act is based on sound reasoning and logic. One fails to see any justification for the hospitals, the nurses or the medical profession, carrying any portion of the costs of these industrial accidents which are definitely the responsibilities of industry and society. These bills are now in the hands of the Committees on Social Security of the House and Senate, where they have been referred for study and recommendation. It has been reported that the insurance companies are opposing the measure because such a change would necessitate an increase in rates. This attitude on the part of the insurance companies is tantamount to admitting that an adjustment is necessary, since their present rates do not allow them adequately to care for injured workmen. Who is taking care of that difference now? It would seem fairly obvious that

whatever increase in rates may be necessary to provide full coverage, represents the loss which physicians, hospitals and nurses have been carrying year after year.

Members of local medical societies should communicate with the House and Senate Committees on Social Security, soliciting their favorable reaction to this measure and recommendation for its passage. The bill rests on its own merit, and concentrated cooperation on the part the physicians will bring this matter sufficiently to the attention of your legislators to ensure its enactment.

MEETING OF INTEREST TO IOWA PHYSICIANS

The Iowa Tuberculosis Association, the Iowa Sanatorium Association and the Iowa Heart Association will hold a joint meeting in Des Moines, Iowa, March 11 and 12, 1937, with headquarters at the Hotel Savery. The program, as tentatively arranged, follows:

Thursday, March 11—10:00 a. m.

Medical Program

Symposium: Prophylaxis and Early Diagnosis of Heart Disease

1. The Rheumatic Diseases
2. Syphilis
3. Arteriosclerosis

Symposium: Essentials of a Diagnosis of Pulmonary Tuberculosis

1. Clinical Examination
2. X-ray
3. Laboratory Aids

Luncheon—2:00 p. m.

Symposium: Collapse Therapy in Pulmonary Tuberculosis

1. Pneumothorax
2. Pneumolysis and Phrenic Nerve Operations
3. Thoracoplasty

Symposium: Coronary Thrombosis

1. Typical Forms
2. Other Conditions Simulating Coronary Thrombosis
3. Atypical Forms

Note: Arrangements are being made to secure Arlie Barnes, M.D., of Rochester, Minnesota, as the medical guest speaker on this program.

Friday, March 12

Combined Medical and Lay Program

Subject: The Tuberculosis Problem Today

- | | |
|-------|--|
| 9:30 | From the Viewpoint of the Statistician |
| 9:50 | From the Viewpoint of the Sanatorium Administrator |
| 10:10 | From the Viewpoint of the Practicing Physician |
| 10:30 | From the Viewpoint of the Medical Social Worker |
| 10:50 | From the Viewpoint of the Examination of Groups of Apparently Healthy Children in Susceptible Age Groups |
| 11:10 | From the Viewpoint of the Examination of Tuberculosis Contacts |
| 11:30 | Summary |

SPEAKERS BUREAU ACTIVITIES

LECTURES TO COLLEGE STUDENTS

In addition to the series of lectures being presented at Drake University, an outline of which was given last month, the Speakers Bureau is presenting similar series of talks to the students at Upper Iowa University, Fayette, and Buena Vista College, Storm Lake. The subjects and speakers are listed below:

Upper Iowa University

February 24 The Doctor and His Relation to the Community T. F. Hersch, M.D., Cedar Rapids

March 3 Upkeep and Energy Supply
C. H. Graening, M.D., Waverly

March 10 Body Mechanics
M. B. Call, M.D., Greene

March 17 Infection and Resistance
H. W. Morgan, M.D., Mason City

March 24 Medical Science in the Service of Health
M. E. Barnes, M.D., Iowa City

March 31 Mental Health and Disease
F. R. Sparks, M.D., Waverly

April 7 Physiology of the Endocrine Glands
B. F. Wolverton, M.D., Cedar Rapids

April 14 Physiology of Reproduction
H. W. Morgan, M.D., Mason City

April 21 Heredity and Its Relation to Social Conditions
W. W. Bowen, M.D., Fort Dodge

April 28 The Achievements of American Medicine
T. U. McManus, M.D., Waterloo

Buena Vista College

March 2 The Doctor and His Relation to the Community
E. M. Myers, M.D., Boone

March 4 Medical Science in the Service of Health
Marvin F. Haygood, M.D., Des Moines

March 9 Infection and Immunity, Part 1
A. C. Starry, M.D., Sioux City

March 11 Infection and Immunity, Part 2
A. C. Starry, M.D., Sioux City

March 16 Relation of Heredity and Social Conditions
W. W. Bowen, M.D., Fort Dodge

March 23 Physiology of Circulation
R. N. Larimer, M.D., Sioux City

March 25 Mental Hygiene
W. E. Ash, M.D., Council Bluffs

March 30 Physiology of Reproduction
R. E. Crowder, M.D., Sioux City

April 1 Physiology of the Muscular and Osseous System
H. L. Brereton, M.D., Emmetsburg

April 6 Physiology of the Endocrine Glands
D. J. Glomset, M.D., Des Moines

April 8 The Achievements of American Medicine
W. E. Harriman, M.D., Sioux City

POSTGRADUATE COURSE DATES

Mason City

March 2	Dr. E. T. Bell
March 9	Dr. E. L. Sevringhaus
March 16	Dr. M. H. Ebert
March 23	Dr. William Malamud
March 30	Dr. Henry F. Helmholtz
April 6	Dr. Lester R. Dragstedt
April 13	Dr. Robert D. Schrock
April 20	Dr. Arthur U. Desjardins

Ames

March 4	Dr. Clifford J. Barborka
March 11	Dr. S. W. Becker
March 18	Dr. Arno B. Luckhardt
March 25	Dr. Paul A. O'Leary
April 1	Dr. B. R. Kirklin
April 8	Dr. E. M. K. Geiling
April 15	Open date—no meeting
April 22	Dr. F. A. Willius
April 29	Dr. Paul C. Bucy

Fort Dodge

March 5	Dr. E. D. Plass
March 12	Dr. S. W. Becker
March 19	Dr. Arno B. Luckhardt
March 26	Dr. Paul A. O'Leary
April 2	Open date—no meeting
April 9	Dr. E. M. K. Geiling
April 16	Dr. Ralph C. Brown
April 23	Dr. F. A. Willius
April 30	Dr. Paul C. Bucy

RADIO SCHEDULE

WSUI—Wednesdays at 3:30 p. m.

WOI—Fridays at 4:00 p. m.

March 5	How to Fight Cancer—American Society for the Control of Cancer
March 12	The Problem Child—William Malamud, M.D.
March 19	"A Challenge to Women"—American Society for the Control of Cancer
March 26	Romances of American Medicine—The Conquest of Anemia—D. J. Glomset, M.D.
April 2	Mastoiditis—Gordon F. Harkness, M.D.

WOMAN'S AUXILIARY NEWS

Edited by the Press and Publicity Committee

MRS. DEAN W. HARMAN, *Chairman*, Glenwood, Iowa

CANCER CONTROL GROUP ORGANIZED

Pottawattamie county organizational details of the Women's Field Army of the American Society for the Control of Cancer have been announced by Mrs. Covert T. Brown, county captain. Included on the advisory board to assist the organization are Mayor William Guilfoyle, Dr. Matt A. Tinley, Dr. Jeck Treynor, Dr. Ralph Livers and Bert Holder. Mrs. Brown named twelve lieutenants who will be in charge of activities in the various towns of the county. These lieutenants met at a luncheon at the Hotel Chieftain to discuss plans for carrying on the work. Dr. M. C. Hennessy, councilor of the eleventh district of the Iowa State Medical Society, and general advisor to the southwest Iowa cancer chairmen, addressed the meeting. Other speakers were Dr. Gerald V. Caughlan, county medical advisor; Dr. Jack Treynor, president of the Pottawattamie County Medical Society; and Mrs. M. C. Hennessy, district vice commander of the Women's Field Army.

This newly organized group is a part of the nationwide campaign against cancer, which is being inaugurated by the American Society for the Control of Cancer. Special attention is being directed during the month of March, which marks the opening of this campaign. However, the Women's Field Army is a permanent organization, and will continue unceasingly in its efforts to educate the public with the true facts concerning this dread disease. As in tuberculosis, the slogan for this concentrated attack on cancer is, "Earlier Diagnosis and Earlier Treatment." The success of the campaign against tuberculosis is history now, and a similar drastic reduction in the death rate from cancer is the goal toward which the members of the Women's Field Army are working.

While the Women's Field Army is a separate and distinct organization, not connected in any way with the woman's auxiliaries to the various county medical societies, it is the hope of your officers that every county auxiliary will support and cooperate wholeheartedly with this new group. Mrs. C. W. McLaughlin of Washington, state commander for the Iowa division of the Women's Field Army, has an-

nounced the following appointments of district vice commanders:

First District—Miss Gertrude Kessel, Cresco.

Second District—Mrs. H. E. Woodward, Whittemore.

Third District—Mrs. C. C. Collester, Spencer.

Fourth District—Miss I. Witke, Sioux City.

Fifth District—Mrs. S. E. Lincoln, Des Moines.

Sixth District—Mrs. A. A. Crabbe, Traer.

Seventh District—Mrs. J. W. Ballard, Cedar Rapids.

Eighth District—Mrs. T. P. Hollowell, Fort Madison.

Ninth District—Mrs. E. G. Moon, Ottumwa.

Tenth District—Mrs. J. V. Richardson, Creston.

Eleventh District—Mrs. M. C. Hennessy, Council Bluffs.

These district vice commanders will cooperate with the councilors in the eleven districts of the Iowa State Medical Society. A further division of the Women's Field Army is composed of county captains who will work with physician-chairmen of the Iowa State Medical Society Cancer Committee, recently appointed in each county by the respective councilors. Thus the organization is complete down to the last unit.

With such an array of earnest and loyal workers, failure seems impossible. The avowed purpose of the Women's Field Army to spread sound accurate facts concerning cancer, approved by competent medical authorities, seems to strike at the very heart of the problem. The battle cry of the organization, "Fight cancer with knowledge," spells doom to this mysterious and elusive enemy of mankind. It would seem that members of the Woman's Auxiliary to the Iowa State Medical Society are peculiarly fitted to join in this campaign to disseminate knowledge throughout the community. As members of the Auxiliary we have, for some time, been interested in educational work on various subjects, and we take this opportunity of urging each and every member to direct her time and energy unstintingly, to the end that an enlightened public, furnished with the ammunition of knowledge, may successfully wage its fight against cancer, and reduce the death rate to the minimum.

SOCIETY PROCEEDINGS

Black Hawk County

Harold Swanberg, M. D., of Quincy, Illinois, director of the Quincy X-Ray and Radium Laboratories, addressed the Black Hawk County Medical Society, Monday, February 15, following a dinner meeting at the Hotel President in Waterloo. Dr. Swanberg spoke on Internal Cancer in Women.

Cerro Gordo County

The regular monthly meeting of the Cerro Gordo County Medical Society was held at the Hotel Hanford in Mason City, Tuesday, February 9, and the following scientific papers were presented: Clinical Aspects of Allergic Diseases, Julia Cole, M. D., of Ames; and The Injection Treatment of Hernias, J. E. Houlahan, M. D., of Mason City.

Clinton County Annual Meeting

Officers elected at the annual meeting of the Clinton County Medical Society held recently at the Lafayette Hotel in Clinton are: Dr. Ralph F. Luse, president; Dr. L. O. Riggert, vice president; Dr. A. K. Meyer, secretary and treasurer; Dr. H. A. Amesbury, delegate, and Dr. R. T. Lenaghan, alternate delegate. All officers are of Clinton. A social evening followed the business session.

G. M. Ellison, M. D., Secretary

Crawford County Annual Meeting

The Crawford County Medical Society met at the Hotel Denison in Denison, Thursday, February 4, for a business and scientific session. Daniel J. Glomset, M. D., of Des Moines, was present, and explained the proposed "refresher" courses to be offered in obstetrics and pediatrics. The society voted to sponsor this program in this locality. James F. Kelly, M. D., of Omaha, professor of radiology at the Creighton University School of Medicine, was guest speaker for the society. His subject was Radiology and its Present Application in the Field of Therapy. The lecture, which was illustrated with lantern slides of gross pathology and microscopic pathology, was very well received, and a most interesting and lengthy discussion followed.

At the business session the society voted to join the Twin Lakes District Medical Society. A thorough discussion of the tuberculin testing program resulted in a unanimous rejection of the proposal. Officers elected for 1937 are: Dr. Henry W. Clasen, President; Dr. A. H. Grau, vice president; Dr. J. James Duffy, secretary and treasurer; Dr. C. L. Sievers, delegate; and Dr. P. J. Brannon, alternate delegate. All officers are of Denison.

J. James Duffy, M. D., Secretary

Dubuque County

The regular meeting of the Dubuque County Medical Society was held Tuesday, January 12, at the Finley Hospital in Dubuque. Mr. F. Chapman gave a very interesting talk on The Importance of a Safe Milk Supply.

The February meeting of the Dubuque County Medical Society was held Tuesday, February 9, at the Elks' Club in Dubuque. A dinner preceded the meeting, after which W. L. Crawford, M. D., of Rockford, Illinois, addressed the group on Roentgen Studies of Some Common Chest Conditions in Children.

L. E. Cooley, M. D., Secretary

Fayette County Annual Meeting

Election of officers for the Fayette County Medical Society, held in Fayette, Tuesday, February 2, resulted as follows: Dr. G. M. Thein, president; Dr. F. P. Leehey, vice president; Dr. R. J. Galvin, secretary and treasurer; Dr. Thein, delegate; and Dr. Howard Risk, alternate delegate. All officers are of Oelwein.

R. J. Galvin, M. D., Secretary

Fremont County Annual Meeting

R. C. Danley, M. D., of Hamburg, furnished the scientific program for the Fremont County Medical Society, at a meeting held in Hamburg, Monday, February 22. Dr. Danley spoke on The Treatment of Fibroids with Radium, and an interesting round table discussion followed his presentation. The following officers were named to head the society this year: Dr. Ralph Lovelady of Sidney, president; Dr. Kenneth Murchison of Sidney, vice president; Dr. A. E. Wanamaker of Hamburg, secretary and treasurer; Dr. Murchison, delegate; and Dr. Harold P. Cole of Thurman, alternate delegate.

A. E. Wanamaker, M. D., Secretary

Hardin County

Edwin B. Winnett, M. D., of Des Moines, was guest speaker for the Hardin County Medical Society, at the regular monthly meeting of that organization held in Iowa Falls, Friday, February 26. Dr. Winnett addressed the society on Diabetes and the New Insulin.

Jackson County Annual Meeting

A business meeting of the Jackson County Medical Society was held Wednesday, February 10, at the home of Dr. and Mrs. William Lowder in Maquoketa. Officers elected are: Dr. E. A. Hanske of Bellevue, president; Dr. F. L. Griffin of Baldwin, vice president; and Dr. William Lowder, secretary and treasurer.

William Lowder, M. D., Secretary

Johnson County

The February meeting of the Johnson County Medical Society was held at Youde's Inn, Wednesday, February 3. Following the dinner and business session, John H. Peck, M. D., of Oakdale, presented a paper entitled What's Ahead in Tuberculosis?, and F. L. Love, M. D., of Iowa City, spoke on A Case of Coronary Thrombosis. Discussion was opened by F. J. Rohner, M. D., also of Iowa City.

Linn County

The next meeting of the Linn County Medical Society will be held Thursday, April 8, with William Weston, M. D., of Columbia, South Carolina, as guest speaker. Dr. Weston has chosen as his subject, Problems in American Nutrition. Another feature of the program will be a paper by John J. Terrall, M. D., of Cedar Rapids, on Medical Advertising.

T. F. Hersch, M. D., Chairman Program Committee

Montgomery County Annual Meeting

Officers elected at the annual meeting of the Montgomery County Medical Society held in Red Oak, Thursday, February 25, include: Dr. W. S. Reiley of Red Oak, president; Dr. Edward S. Montgomery of Grant, vice president; and Dr. Fred A. Hansen of Stanton, secretary and treasurer.

O'Brien County Annual Meeting

The annual meeting of the O'Brien County Medical Society was held Friday, February 12, in Primghar, with the following results: Dr. G. E. Vermeer of Sheldon, president; Dr. Kermit W. Myers of Sheldon, vice president; Dr. H. J. Brackney of Sheldon, secretary and treasurer; Dr. W. R. Brock of Sheldon, delegate; and Dr. N. E. Weems of Paullina, alternate delegate.

Polk County Meetings

The regular meeting of the Des Moines Academy of Medicine and the Polk County Medical Society was held Tuesday, February 23, at the Hotel Fort Des Moines. Edwin B. Winnett, M. D., spoke before the group on The New Insulin, and Maurice T. Bates, M. D., presented a paper on Gas Bacillus Infection.

A special scientific meeting of the organization was held Thursday, February 25, at which time Clarence Van Epps, M. D., of Iowa City, and his staff from the University of Iowa, College of Medicine, presented a neurologic clinic, with the following speakers: Encephalographic Interpretation of Tumors in and about the Third Ventricle, Aqueduct and Fourth Ventricle, O. R. Hyndman, M. D.; Muscular Disorders, C. Gregory Barer, M. D.; and The Hypersensitive Brain State, A. L. Sahs, M. D.

Another special meeting was held Tuesday, March 9, when the society presented R. G. Leland, M. D., of Chicago, in a public meeting at the Hoyt Sher-

man Place in Des Moines. Dr. Leland is director of the Bureau on Medical Economics of the American Medical Association, and the topic of his public address was Confidence in Your Physician.

Pottawattamie County

The Pottawattamie County Medical Society and the Council Bluffs City Dental Society held a joint meeting at Mercy Hospital in Council Bluffs, Monday, February 22, and the following program was presented: Pyorrhea, H. Berner, D. D. S., discussion by Albert N. Brown, D. D. S., Abbott M. Dean, M. D., and Aldis A. Johnson, M. D.; Vincent's Infection in the Mouth, Max Dunshee, D. D. S., discussion by S. W. McCall, D. D. S., S. D. Maiden, M. D., and E. B. Floresch, M. D.

F. H. Beaumont, M. D., Secretary

Poweshiek County

Oliver J. Fay, M. D. of Des Moines, was a guest of the Poweshiek County Medical Society, at the meeting held Tuesday, February 9, in Grinnell. Dr. Fay spoke on Will the Present Social Security Act Bring Security or Insecurity?

Scott County

The Scott County Medical Society entertained Irving F. Stein, M. D., of Chicago, at the regular meeting held in Davenport at the Hotel Blackhawk, Tuesday, March 2. Dr. Stein, who is associate professor of obstetrics and gynecology at Northwestern University Medical School, gave an illustrated lecture on Some Interesting Gynecologic Problems and Their Management.

Henry A. Meyers, M. D., Secretary

Wapello County

R. G. Leland, M. D. of Chicago, director of the Bureau on Medical Economics of the American Medical Association, was guest speaker at a meeting of the Wapello County Medical Society, the Ottumwa Rotary Club, the Ottumwa Kiwanis Club, and various other invited guests. Dr. Leland delivered his address entitled Confidence in Your Physician.

Washington County

Members of the Washington County Medical Society held their regular monthly meeting Tuesday, March 2, at the Nurses' Homes in Washington. Following a six-thirty dinner, W. G. Bessmer, M. D., of Davenport, presented an illustrated talk on Fractures of the Pelvis and Upper Portion of the Femur. Eighteen physicians were in attendance.

W. S. Kyle, M. D., Secretary

Woodbury County

The following program was presented for members of the Woodbury County Medical Society at their meeting held at the West Hotel in Sioux City,

Tuesday, February 23: The Acute Chest from the Bronchoscopic Standpoint, T. R. Gittins, M. D.; Coronary Heart Disease, R. J. Harrington, M. D.; The Present Trend in the Treatment of Fractures of the Hip, Walter Scott, M. D. All essayists are of Sioux City.

Worth County Annual Meeting

Officers for 1936 were re-elected for 1937 at the annual meeting of the Worth County Medical Society held Tuesday, February 2, in Northwood. They are: Dr. G. S. Westly of Manly, president; Dr. R. L. Olson, secretary and treasurer; Dr. S. S. Westly of Manly, delegate; and Dr. Olson, alternate delegate.

R. L. Olson, M. D., Secretary

PERSONAL MENTION

Dr. R. W. Peterson has located in Clear Lake, after practicing for seven years in Kanawha. Dr. Peterson's office and practice will be taken over by Dr. L. W. Eller, who was recently graduated from Northwestern University Medical School.

Dr. F. Harold Entz of Waterloo, was guest speaker at a public meeting held Friday, February 3, in the high school auditorium at Cedar Falls. Dr. Entz spoke on "Efforts to Wipe Out Venereal Diseases." The program was held in connection with National Social Hygiene Day, which was nationally observed on that date.

Dr. Charles T. Bergen, who has practiced in Northwood for the past three years, is moving to Britt, where he will be associated with Dr. B. F. Denny. Dr. Denny has been located in Britt for more than twenty-five years.

Dr. Frank A. Ely of Des Moines, addressed the Perry Women's Club, Tuesday, January 26, on the subject of "Jealousy."

Dr. Charles F. Snopek is closing his office in Cresco, where he has practiced for nine years, and is moving to New York, where he has accepted a position in the surgical department of the Immaculate Conception Hospital.

Drs. Harold W. Morgan and Lee R. Woodward of Mason City, addressed the Garner Women's Club, Tuesday, January 5, on "Cancer," stressing particularly the educational nature of the campaign now under way against this dreaded condition.

The following physicians constitute the new State Board of Health, recently appointed by Governor Clyde L. Herring for a two year period: Dr. W. J. Connell of Dubuque, Dr. Charles E. Irwin of Cedar Rapids, Dr. E. M. Myers of Boone, Dr. W. A. Sternberg of Mt. Pleasant, and Dr. Herbert E. Stroy of Osceola.

DEATH NOTICES

Hewitt, Leland Grant, of Northwood, aged seventy, died January 31, after an illness of several months. Death was due to an abscessed lung which followed an attack of bronchitis. He was graduated in 1892 from Rush Medical College, Chicago, and at the time of his death was a member of the Worth County Medical Society.

Johnson, Cecil Corwin, of LeClaire, aged sixty, died February 18, at St. Luke's Hospital in Davenport, where he had been taken for treatment of bladder and liver disorders. He was graduated in 1901 from the University of Illinois, College of Medicine, and at the time of his death was a member of the Scott County Medical Society.

Lowry, James David, of Fort Dodge, aged sixty-one, died February 10, after a short illness, complicated by anemia. He was graduated in 1901 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Webster County Medical Society.

Wistein, Rosina Rehor, of Cedar Rapids, aged sixty-nine, died February 23, of heart disease. She was graduated in 1904 from the University of Illinois, College of Medicine, and at the time of her death was a member of the Linn County Medical Society.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. In most instances, more detailed information may be secured from the JOURNAL office.

International Conference on Fever Therapy—March 29 to 31, New York City.

University of Louisville Centennial—March 31 to April 3, Louisville, Kentucky.

Second Annual Session of the Postgraduate Institute of the Philadelphia County Medical Society—April 12 to 16, Philadelphia, Pennsylvania.

Iowa State Medical Society—May 12, 13 and 14, Sioux City, Iowa.

American Medical Association—June 7 to 11, Atlantic City, New Jersey.

Fifth International Congress of Hospitals—July 6 to 11, Paris, France.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. McCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

Historical Sketch of Medicine in Dubuque County Where Iowa State History First Began

IN FOUR PARTS

HENRY G. LANGWORTHY, M.D., Dubuque, Iowa

Dr. R. S. Lewis, an active practitioner in Dubuque for twenty-five years, settled in the city in 1844. Unassuming and honorable, he enjoyed the respect of all he met. Dr. William Watson was his business associate for fifteen years.

Dr. Asa Horr, a native of Ohio, made a permanent home in Dubuque in 1847. Not content with a mastery of the science of medicine he gave no inconsiderable attention to collateral sciences, studied botany with good success and was for more than twenty years one of the leading observers for the Smithsonian Institute. The town clock in Dubuque is said to have been procured mainly through his exertions. He also helped to establish the true longitude of the city.

Dr. R. I. Thomas, a gentleman of English birth, came to the Key City a year later in 1848. He made preparations at one time to establish a newspaper, but the project was never realized. He was greatly opposed to foreigners becoming citizens of the United States.

Dr. William Watson, one of our best known pioneer physicians, "stuck out his shingle in Dubuque in 1854." He came from McGregor, Iowa, where he had been in practice for some eighteen months. He is especially remembered for his sterling worth as a man, for his keen enthusiasm in his work, splendid memory, and general prominence in the affairs of the Iowa State Medical Society. He has written a number of valuable historical sketches of some of the early settlers. Dr. Watson was one of our honored fellow citizens to whom Governor Kirkwood entrusted the care of the health and casualties of a regiment in the civil war. It is needless to add that he discharged this trust to the satisfaction of all. Indeed, we are told that if there was a place where disaster had caused an accumulation of sick and dying, if lack of foresight had failed to arrest the spread

of disease or to provide for the wounded, it was to Medical Officer Watson that they turned with confidence for assistance and support. Many of the notes in these articles have been taken from short visits with Dr. Watson just before he died.

Dr. William G. David located in Dubuque shortly after Dr. Watson and enjoyed a fair practice. Other pioneer physicians locating in the city and county in the years from 1848 to 1852 were: Drs. Edwin Kirkup, G. W. Richards, Joseph Sprague, W. R. McMahan, F. Coleman Smith, and Thomas Scott.

A Doctor's Portrait Selected For Art Work of Soldiers' and Sailors' Monument at Des Moines.

Dr. George M. Staples, a native of Buxton, Maine, landed in Dubuque January 3, 1856, cross-



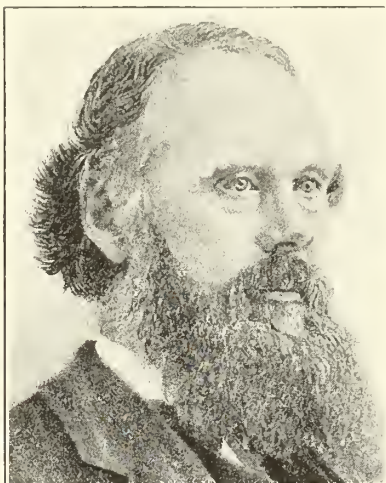
DR. GEO. M. STAPLES, Acting Medical Director
16th Army Corps, 1864

Portrait selected to adorn Soldiers' and Sailors' Monument at State Capitol as representing medical profession.

ing the Mississippi on the ice, as everyone had to during the winter. He was a graduate of Colby College and Harvard University Medical Depart-

ment. Appointed surgeon to the 14th Iowa regiment during the civil war, he served with great honor and at one time wrote out his recollections of field life under the title of "Personal Recollections of the War." His portrait was the one selected for the art work of the soldiers' monument of Iowa at Des Moines. He died in 1895 from blood poisoning after an operation, having been engaged in active practice for forty years. His son, Dr. G. Allen Staples, of the city had the unique distinction of being the third generation of physicians in the Staples family.

Dr. Benjamin McCluer, born at Franklinville, Cattaraugus County, New York, came to Dubuque in October, 1856. He and the late Colonel D. E. Lyon, a well known pioneer lawyer of Dubuque, were boys in the same town. Highly educated and full of the enthusiasm of the investigator, Dr. McCluer took an active part in the af-



BENJAMIN MCCLUER, M.D.
Established McCluer Memorial Fund for
First Congregational Church,
Dubuque, Iowa

fairs of the community as well as serving honorably as a surgeon during the Civil War. At his death he left a sum of money to the First Congregational Church believing that the promotion of Christian education was the next best thing to the practice of medicine.

Organization of First Medical Society in Dubuque in 1853, Membership Limited to Surgeons, Physicians and Apothecaries.

So far we have dealt solely with the early individual doctors and their relations to a newly developing settlement. With the rapid growth in population to city size and the arrival of an increased number of physicians, the time seemed ripe for the formation of some kind of medical society which would be of benefit to its members and the community in the prevention of disease.

With this in view a call for a meeting was sent out in October, 1852, which read as follows:

The Original Call November 4, 1852.

"The undersigned members of the medical faculty of the city of Dubuque, feeling the want of an association for our mutual improvement and the promotion of amity among us and believing that it would contribute to the advancement of the science of medicine, beg leave to solicit the attendance of all the members of the profession at the office of Dr. E. Kirkup, Globe Building at 7 o'clock P. M. Thursday next, November 4th, for such an organization. As business may prevent the attendance of some it is hoped that all who view this project favorably will sign this call, that those who meet may know the sentiments existing among us on this subject. Signed, John W. Finley, Edward Kirkup, G. W. Richards, Jos. Sprague, R. S. Lewis, Asa Horr, W. R. McMahon, F. Coleman Smith and Theo. Scott."

One week later they reassembled. A proposed Constitution and By Laws was presented, but action was deferred until a more general meeting and a larger attendance could be obtained.

Northwest Medical Society Organized January 11, 1853.

Obedient to the final circular distributed, the North Western Medical Society assembled at the City Hotel, Dubuque, January 11, 1853. Dr. R. S. Lewis was appointed to the chair and Dr. F. Coleman Smith requested to act as secretary. The following gentlemen were elected officers: President, Dr. H. Holt; corresponding secretary, Dr. J. F. Ely of Linn County; second vice-president, Dr. R. Holt; corresponding secretary, Dr. A. Horr; treasurer, Dr. R. S. Lewis; and censors, Drs. Richards, Horr and Ely. The requirements for admission were fixed as follows: "All surgeons, physicians and apothecaries within the state of Iowa, Illinois, Wisconsin and the territory of Minnesota are eligible for membership by producing evidence of being a graduate of some legal and regular medical school."

Name Changed to Dubuque Medical Society in 1856.

On January 10, 1856, the name was changed to the Dubuque Medical Society and the requirements for membership raised. Articles of incorporation were filed for record on June 21, 1874, claiming all the rights, privileges, powers and immunities created, granted and conferred by virtue of the laws of the State of Iowa. In addition to the usual purposes of mutual improvement and advancement, the objects of the society also included "the establishment and maintenance of a pathologic museum and medical library" an

unusual undertaking for an earlier day. The names of the members thus associated were Drs. Finley, Sprague, Horr, Watson, Belden, N. B. Matthews, George M. Staples, J. C. Lay, Benjamin McCluer, H. J. Rischatsch, Wesley McKee, W. H. Waples, M. E. Connelly, Karl Mising, H. W. Smith and Silas T. Tremain. The Hippocratic oath of fidelity to mankind was given much prominence in most of the early printed charter and by-laws of the society.

On February 9, 1904, the charter and by-laws of the Dubuque Medical Society were revised under the reorganization plan of the American Medical Association and the word County inserted in its title when it entered into an affiliation with that association and the Iowa State Medical Society. Further "Renewal and Amended Articles of Incorporation of the Dubuque County Medical Society" were filed for record on November 12, 1926, having to do largely with the protection of its members in relation to unethical types of contract and lodge practice springing up in the community. A determined stand was also taken in relation to abortions to the effect that "Any member of the Society contemplating a therapeutic abortion in a given case, shall before performing such practice, call in as consultants, at least four other legally qualified members of the medical profession who are in good standing. All members participating in the consultation shall state in writing their reason for or against proposed course of treatment and sign their name to the statement."

In 1929 as additions to By-Laws, there was also exhibited a growing sentiment against certain kinds of clinic and group forms of practice for pecuniary gain with advertising in lay journals, newspapers and other places. The Dubuque profession, always ultra conservative, thus set its face against all forms of private clinic practices which might seem, in the slightest degree, to tend to lower the high standard of organized medicine as demanded in Dubuque County.

PART III

CIVIL WAR AND POST-BELLUM YEARS 1860-1899

With this short history of early settlement days, the first pioneers and the organization of the medical society concluded, let us continue very briefly to the period following the Civil War and mention some of the physicians locating in Dubuque County about that time. To many of the present members even their names may be unfamiliar. Among these may be noted the names of Drs. Marshall H. Waples, John S. Lewis, Nancy M. Hill, J. T. Lambert of Farley, W. H.

Finley of Cascade, John E. Bready, Franklin Reynor of Epworth, J. J. Browson and William H. Kinnier. Dr. Marshall H. Waples engaged in the practice of medicine in Dubuque in 1868. He was born in the city in 1841, his parents being among the early settlers. Dr. John S. Lewis, one of the best known of our recent city physicians, came to Dubuque in 1870. Deeply interested in medical organization and proper ethics, he exerted a tremendous influence for good in the local county medical society. Dr. Lewis, through many years, had carefully preserved the original minute book of the first medical organization in Dubuque. In 1907 he turned them over to the writer and it is from these old original records that our present extracts are taken. His son, Eugene R. Lewis, doing eye and ear work, was associated with him for a number of years before moving to Los Angeles, California.

Dr. Nancy M. Hill, Famous Civil War Army Nurse.

Dr. Nancy M. Hill, one of the first women in the entire country to receive the doctor of medicine degree, almost unheard of in that day, came to Dubuque to practice in 1874, specializing in obstetrics particularly. Her medical diary shows that she brought more than a thousand babies into the world, the author of this paper being one of them. My own arrival was somewhat unexpected since I was born at Clinton, Iowa, when my mother, Caroline Glover, was hurrying to reach her husband in Omaha, Nebraska, before the arrival of the baby. It did not take Dr. Hill many hours to reach her bedside for the event even though it was a distance of nearly seventy miles. Unfortunately my mother died some ten days later. Therefore, when the author of these articles began his special eye, ear, nose and throat practice in Dubuque in the spring of 1907, as a young house surgeon fresh from the Massachusetts Eye and Ear Infirmary in Boston, Dr. Hill was the first to welcome him back home as one of her boys. Born in Belmont, Massachusetts, of wealthy parents, she was graduated from Mount Holyoke Seminary just before the Civil War. The opening of the Army Square, hospital for wounded soldiers, by President Lincoln gave her the opportunity of turning her great talents for healing to good purpose so that she became Nancy Hill, the well known army nurse of that long conflict. Many volumes are in existence written by friends and union soldiers in which some reference will be found to the soothing administrations of Nancy and later Dr. Hill. At the end of the war, no longer satisfied to return to tea parties and New England society routine, she entered and was graduated from the

only college of medicine in the country which would accept women students, the medical department of Ann Arbor, Michigan. She died in Chicago in 1918 beloved by all.

Dr. J. T. Lambert of Farley, Iowa, came to Dubuque county in the early seventies. Dr. John E. Bready, a native of Pennsylvania, settled in Dubuque in 1880. He served as acting assistant surgeon of the United States marine service for many years, and for some time was the oldest associate surgeon in service in the marine corps. Dr. Franklin Reynor of Epworth, Iowa, served as private soldier in the Civil War and was honorably discharged. He acted as health physician for the town of Epworth for twenty-five years.

The Iowa State Medical Society was organized at Burlington, June 19, 1850, and the first three counties to form affiliated medical societies were Keokuk, September 26, 1850; Louisa, April 24, 1852, and Dubuque, November 4, 1853. The Dubuque County Medical Society is therefore one of the very early medical organizations formed in the state.

Civil War Surgeons and Leaders

It is extremely fitting that some special notice be taken of the part played by the early pioneer physicians of Dubuque during the Civil War. Just as "the annals of a hundred bloody fields from Wilson's Creek to Allatoona," chronicle the heroic deeds of Iowa soldiers, so do the records of posts requiring professional skill and executive ability, show a goodly list of members of the Dubuque County Medical Society on the roster of Iowa's and the nation's army and navy surgical staffs. It is a heritage and a privilege to pay our respect and honor to the memory of those sturdy medical pioneer giants of that great conflict.

Dr. Joel H. Greene, another well known physician of the period, was born in Cattaraugus, New York, and was graduated from the Medical College of New York. After his hospital internship in the east, he came to Dubuque in 1875 and very quickly took a commanding place in the medical society. He was president of the school board and later a leader in establishing the municipal water system and other rights for citizens along humanitarian and sanitation lines.

Mercy Hospital Organized.

On January 13, 1879, a little group of five Sisters came to Dubuque in response to the urgent solicitation of the Right Reverend Bishop Hennessy, and founded their first hospital on the corner of Third and Bluff Streets. Mother Mary Agatha Murphy was the leader of the initial small

band. Soon afterward they moved to their present beautiful location of St. Joseph's Mercy Hospital on the bluff overlooking the Mississippi with the ever present view across the river of the states of Illinois and Wisconsin. With the first few years of stress over, the Sisters of Mercy, feeling the need of a sanitarium for treatment of curable mental ailments, also opened St. Joseph Sanitarium in 1878 and in 1898 built St. Anthony's



SISTER M. AGATHA MURPHY
Founder and First Mother Superior, St. Joseph's
Mercy Hospital, Dubuque, Iowa.

Home for the Aged. The most recent nurses' home and convent, in conjunction with Mercy Hospital, were built in 1921. It is a remarkable thing that the Sisters of Mercy should have specialized so wonderfully in caring for the sick, and through up to date hospital equipment as well as trained nursing, done so much to assist the advancement of scientific medicine in Dubuque. Their present large hospital, with Mother Ursula in charge of the training school, is one of the best in Iowa.

Dr. George Minges, another prominent physician, a native of Dubuque and son of Dr. Minges who came to the city from Bavaria in 1854, began practice in 1879. After graduating from the Buffalo Hospital College, he completed his medical education in Europe at Vienna and Berlin. A keen scientific user of the microscope, Dr. Minges was doing work in bacteriology and pathology in his own laboratory in 1884 and may justly be called a pioneer in that department.

Dr. William H. Kinnier specialized in diseases of the eye, ear, nose and throat, coming to Dubuque in 1882 from New Berlin, New York, where he had practiced medicine some ten years. His preliminary education was obtained at Oxford Academy, Oxford, New York. He was graduated

from Albany Medical School in 1870, married Elizabeth Gross of Greene, New York, in 1872 and died in Dubuque on September 8, 1918. Of a very active disposition with a keen understanding of affairs, he at once took a commanding place in the community and medical society. As one of the early pioneers in his special line, he developed a large practice in which, in his later years, he was ably assisted by his daughter Dr. Lily Kinnier, one of the outstanding women specialists of the state. The author has the distinction of having had his adenoids removed as a boy by Dr. Kinnier the elder, and remembers with vividness, even to this day, his well appointed office and splendid equipment.

Dr. Isaac S. Bigelow, born in Dubuque County, began practice in Dubuque in 1883. He was the youngest son of Dr. Israel S. Bigelow, an early pioneer county doctor. Of a very practical, mechanical turn of mind, Dr. Bigelow stood out as one of the most versatile surgeons of northern Iowa.

Dr. James R. Guthrie, Many Years Dean of the College of Medicine, University of Iowa

Dr. James R. Guthrie came to Dubuque to practice medicine and surgery in 1884. He was born in Sand Springs, Delaware County, July 22, 1858, of Irish and Scotch extraction. After graduating from Lenox College at Hopkinton,



CAT.

DR. JAMES R. GUTHRIE
For many years Dean of the College of
Medicine, University of Iowa

Iowa, he taught school three years, a sufficient length of time to enable him to enter the University of Iowa and to be graduated from the Medical Department in 1884. In June, 1889, he was elected to the chair of physiology in the College of Medicine in the State University at Iowa City, which position he held until 1898 when he

was appointed professor of gynecology at the institution. He was given a still further honor and the highest tribute to his skill and executive ability when he was honored on July 22, 1902, with the appointment of Dean of the College of Medicine at the State University which he filled with eminent satisfaction for fourteen years. Under his regime the state medical school grew and thrived in a remarkable way, and the medical profession of Iowa owes much to his leadership. His passing marked almost the last of our great traveling surgeons who, years ago, because of lack of hospital or almost any facilities in isolated rural communities, were forced to operate under all sorts of home conditions as best they could. Their excellent surgical results under all these circumstances were remarkable.

Dr. John Joseph Brownson, born in Evansville, Indiana, in 1857, after graduating from the medical department of the State University of Iowa City in 1886, hung out his shingle in Dubuque in that same year. Of a long line of teachers, his grandfather being the famous American educator, Orestes A. Brownson, it is only natural that the young Dr. Brownson should show the attributes of a schoolmaster and investigator. Through medical study and dissection he had the courage to try to meet many unusual and obscure surgical conditions of his earlier days by direct surgery. As early as 1903 he was carrying on surgery in his own private operating room in Mercy Hospital. In addition to his interest in his profession he has served for years on the board of education of the city schools as well as holding many other public positions in the past. One son, Orestes A., associated with him in his office for some years, is now a practicing eye and ear specialist in Hollywood, California; another, Joseph, a physician in St. Louis, Missouri; and a third, Neumann, a dentist in Los Angeles, California. Dr. J. J. Brownson through a long and active medical career has made a deep and lasting impression upon the community which he has so faithfully served.

(To be continued)

(Continued from page 116)
PREVALENCE OF DISEASE

	Jan. '37	Dec. '36	Jan. '36	Most Cases Reported From
Diphtheria	15	14	55	Black Hawk
Scarlet Fever	621	441	817	Polk, Pocahontas, Pottawattamie
Typhoid Fever	3	9	9	Hancock, Polk, Pottawattamie
Smallpox	92	50	57	Wapello
Measles	17	12	31	(For State)
Whooping Cough ..	72	85	101	Black Hawk
Cerebrospinal				
Meningitis	4	8	19	Scott
Chickenpox	283	439	392	(For State)
Mumps	149	136	1068	Grundy, Webster
Influenza	8136	70	21	Woodbury, Polk
Poliomyelitis	1	2	2	Jones
Tuberculosis	39	54	169	(For State)
Undulant Fever ..	6	9	7	(For State)
Gonorrhea	132	184	174	(For State)
Syphilis	131	122	121	(For State)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- A **DIABETIC MANUAL**—By Edward L. Bortz, M.D., associate professor of medicine, Graduate School of Medicine, University of Pennsylvania. Illustrated. F. A. Davis Company, Philadelphia, 1936.
- ADULT EDUCATION**—By Lyman Bryson, professor of education, Teachers College, Columbia University, New York. American Book Company, Cincinnati, 1936.
- ARTHRITIS AND RHEUMATIC DISEASE**—By Maurice F. Lautman, M.D., consultant to the U. S. Public Health Service Clinic. McGraw-Hill Book Company, 330 West 42nd Street, New York, 1936. Price, \$2.00.
- AN INTRODUCTION TO MATERIA MEDICA AND PHARMACOLOGY**—By Hugh Alister McGuigan, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois, College of Medicine, Chicago. With 71 text illustrations and 18 colored plates. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.
- CHEMICAL PROCEDURES FOR CLINICAL LABORATORIES** By Marjorie R. Mattice, A.B., Sc.M., assistant professor of clinical pathology, New York Postgraduate Medical School of Columbia University, New York. Lea and Febiger, Philadelphia, 1936. Price, \$6.50.
- FUNDAMENTALS OF HUMAN PHYSIOLOGY**—By the late J. J. R. Macleod, M.D., D.Sc., F.R.S., late regius professor of physiology, University of Aberdeen, Scotland, and R. J. Seymour, M.D., professor of physiology, Ohio State University. Fourth edition, C. V. Mosby Company, St. Louis, 1936. Price, \$2.50.
- INTERNATIONAL CLINICS**, Volume III, Forty-sixth Series—Edited by Louis Hamman, M.D., visiting physician, Johns Hopkins Hospital, Baltimore. J. B. Lippincott Company, Philadelphia and London, 1936.
- MICROBIOLOGY AND PATHOLOGY FOR NURSES**—By Charles F. Carter, M.D., Director of Carter's Clinical Laboratory, Dallas, Texas. With 138 text illustrations and 14 colored plates. C. V. Mosby Company, St. Louis, 1936. Price, \$3.00.
- PRINCIPLES OF CHEMISTRY**—By Joseph H. Roe, Ph.D., professor of biochemistry, School of Medicine, George Washington University. Fourth edition. C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.
- SOCIAL ASPECTS OF THE BANANA INDUSTRY**—By Charles David Kepner, Jr., Ph.D., Columbia University Press, New York, 1936.
- A **TEXTBOOK OF NEURO-ANATOMY**—By Albert Kuntz, Ph.D., M.D., professor of micro-anatomy, St. Louis University School of Medicine, St. Louis. Second edition enlarged and revised. Lea & Febiger, Philadelphia, 1936. Price, \$6.00.
- A **TEXTBOOK OF PATHOLOGY**—By W. G. MacCallum, professor of pathology and bacteriology, Johns Hopkins University, Baltimore. Sixth edition, 1277 pages with 697 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$10.00.
- TISSUE IMMUNITY**—By Reuben L. Kahn, M.S., D.Sc., University of Michigan, Ann Arbor, Michigan. Charles C. Thomas, Springfield, Illinois, 1936. Price, \$7.50.

BOOK REVIEWS

BEWILDERED PATIENT

By Marian S. Newcomer, M.D. Hale, Cushman & Flint, Boston and New York, 1936. Price, \$1.75.

No subject is of more uniform interest than that which deals with problems of health and disease. The general public is not satisfied with high sounding polysyllabic words, Latin prescriptions and an attitude on the part of the physician that the patient's intelligence is insufficient to comprehend his explanation of their ailment. General education has provided the essential background for the average layman to understand these facts if the physician is sufficiently skilful and interested in attempting an explanation. In view of this widespread demand for concise and reliable facts concerning health and disease, it would seem timely indeed that a physician should attempt to make a plain spoken, yet scientific, presentation of those subjects which his experience shows are most commonly inquired about by intelligent patients.

He presents the bacterial concept of disease with a discussion of those elements which aid in establishing resistance to infection. He goes rather extensively into the problem of nutrition and delves less exhaustively, but perhaps sufficiently into the problems of sex. His section entitled "Choosing a Physician" and a second one captioned "Playing Fair and Square with the Medical Profession" should aid the patient materially in securing competent medi-

cal advice. Chapter twelve discusses where and how to obtain a satisfactory periodic health examination and indicates the pressing necessity of such periodic check-ups if one is to maintain good health.

While the author attempts no dramatics in order to secure and hold his reader's attention, the straightforwardness of his discussion and his appreciation of the problems of the "bewildered patient" are sufficient to achieve this end. The book can be read with profit and interest by any layman of average intelligence.

ORAL DIAGNOSIS AND TREATMENT PLANNING

By Kurt H. Thoma, D.M.D., Charles A. Brackett, professor of oral pathology in Harvard University. 379 pages with 533 illustrations, 71 of them in colors. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$6.00.

This splendid text should be of practical value to every dentist and physician, since it presents a thorough discussion of oral diagnosis. It emphasizes the manifestations of systemic diseases and the relation of lesions within the mouth upon the entire organism.

In Part I the author presents a philosophy of diagnosis and treatment planning; a broad approach to the general problem of oral disease. Part II is

devoted to methods of examination and includes a complete history, a general physical examination, relevant laboratory procedures, special examination by the oral surgeon, and roentgen examination. The technics of the various methods of diagnosis are elaborated. Part III is of particular interest to the physician, presenting the clinical diagnosis of dental and oral disease in detail. It includes the congenital abnormalities, the infections and the tumors of the teeth, the tongue, the mucous membranes, the jaw, and the soft tissues of the neck. The diagnosis of oral foci as potential sources of systemic disease, and the symptoms of somatic disease which may be attributed to oral infection are well presented.

One is impressed by the careful preparation of this text and the systematic approach to the problem of oral diagnosis. Numerous illustrations contribute greatly to the value of the book. The colored illustrations are excellent.

D. H. K.

FUNDAMENTALS OF HUMAN PHYSIOLOGY

By the late J. J. R. Macleod, M.D., D.Sc., F.R.S., late regius professor of physiology, University of Aberdeen, Scotland; and R. J. Seymour, M.D., professor of physiology, Ohio State University. 4th edition, C. V. Mosby Company, St. Louis, 1936. Price, \$2.50.

This text is an elementary physiology for college students and for those specializing in pharmacy and physical education. However, it can be highly recommended for the busy physician who wishes to review the subject of physiology.

MEDICAL PAPERS

Dedicated to Henry Asbury Christian, from his present and past associates and house officers at the Peter Bent Brigham Hospital, Boston, Massachusetts. The Waverly Press, Baltimore, 1936.

Dr. Henry A. Christian bids fair to occupy the position left vacant by the late great Osler; that is, the great teacher and trainer of young medical men. Now at sixty years of age he is the recipient of a memorial volume consisting of a compilation of medical papers by a number of his former students at Carney and Peter Bent Brigham Hospitals as a testimonial of their appreciation and esteem. Every phase of internal medicine is represented in the papers and the research side of medicine naturally is not overlooked.

Scanning the register of former house officers and resident physicians of the Peter Bent Brigham Hospital which appears at the end of the book, one notices names already high lights in modern medicine, most notably Minot and Murphy, the Nobel Prize winners in 1934. There is a foreword and a closing word of appreciation by Vaughan who has gained prominence as an allergist.

The satisfaction derived by Dr. Christian on the

receipt of this book, from the scientific success of many men for whose training he has been largely responsible must truly be very great. F. R. H.

REMINGTON'S PRACTICE OF PHARMACY

Eighth edition by E. Fullerton Cook, P.D., Ph. M. J. B. Lippincott Company, Philadelphia and London, 1936. Price, \$10.00.

For many years Remington's Practice of Pharmacy has been a standard of authority on pharmaceutical knowledge. The eighth edition has been thoroughly revised and rewritten to meet the demands of present day progress and to coincide with the new revision of the United States Pharmacopeia.

It not only covers the work of the U. S. P., XI, but also in a great measure the work of the new National Formulary and the New and Nonofficial Remedies. Several new sections have been inserted which have added greatly to the value of this edition. New chapters have been added on the adjustment of isotonic solutions, hospital pharmacy, professional pharmacy, biologic products, endocrine products, vitamins, diagnostic reagents, etc. With nearly 2,200 pages it has become virtually an encyclopedia of up to date pharmaceutical information. It will undoubtedly prove to be a valuable reference work for physicians and medical students as well as for pharmacists and pharmacy students.

R. L. P.

THE PRACTICE OF MEDICINE

By Johnathan Campbell Meakins, M.D., Professor of Medicine, McGill University. With 505 illustrations including 35 in color. C. V. Mosby Company, St. Louis, 1936.

It has been said, "There is much medical writing, but very little medical literature produced." In the realm of books this statement may be modified to, "There are books and books, but very few new books" offered the profession. In this important work Meakins presents an entirely new text of medicine based primarily upon the presenting signs and symptoms commonly advanced by the patient. Such an approach to the subject, naturally, stresses symptomatology and the differential diagnosis of each condition studied. Written in paragraphic form and following the various systems in its arrangement, the text covers the entire field of medicine and lends itself equally well to reference and classroom instruction. At the close of each section is a limited number of references to easily accessible literature.

In full appreciation of the value of well chosen illustrations, the author has illuminated his text by five hundred and five original black and white and colored illustrations. While less than encyclopedic in its scope, the volume covers in a pleasingly thorough manner the general field of medicine and will no doubt be promptly accepted by the medical profession. This text appears to be entirely well written, authentic and a new and worthwhile guide to the modern practice of medicine.

BRIGHT'S DISEASE AND ARTERIAL HYPERTENSION

By Willard J. Stone, M.D., clinical professor of medicine, School of Medicine, University of Southern California. 352 pages with 32 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$5.00.

Those diseases clinically classified as Bright's disease account annually for thousands of deaths and rank third in importance in recent mortality studies. These diseases have commanded the thoughtful consideration of physicians in every generation. While our knowledge concerning them has expanded, certain characteristics of these diseases are still little understood. The author of this work has based his discussion of the subject not only upon an extensive knowledge of the literature, but also upon some twenty years of careful observation and case compilation in a busy practice.

Introducing the subject with a classification of Bright's disease, the author carries the reader through the physiology, anatomy and pathology of the kidney, stressing the water balance in the body, the edema and the various aberrations of kidney functions. In other chapters he deals with the laboratory procedures commonly employed, and with their interpretations. In the later chapters of the book he discusses the hypertensive forms of kidney disease and concludes the volume with various autopsy abstracts taken from his own clinical experience.

This monograph reflects an entirely modern conception of Bright's disease from both a diagnostic and a therapeutic standpoint, and merits the thoughtful consideration of every physician who has patients suffering from this group of diseases.

practical determination of the normal muscle balance is clearly presented. The abnormal conditions are classified and the treatment for those patients who can be benefited is outlined.

Under squint, the importance of determining the state of the fusion faculty, credited to Claude Worth, is given the high place it deserves. The rôle of refractive errors and the relationship between accommodation and convergence is emphasized. The author stresses the importance of early determination of the visual acuity to ascertain if any degree of amblyopia exists. As the etiology for convergent squint he lists the following in the order of their relative importance: defective fusion faculty, refractive errors, heredity and amblyopia. This essayist has been one of the leaders in the field of orthoptic training and in this work definitely prescribes which cases can be benefited and the procedure to follow in the phorias and the tropias. The commercial apparatus on the market for this purpose is described and evaluated.

Another chapter deals entirely with the diagnosis and management of paralytic muscles. Fifty pages in one chapter are devoted to muscle operations, their indications, and the results to be expected from the various procedures in vogue today. The effect of increasing or decreasing the so-called contact arc is an important contribution. The tenotomy has been replaced by the recession. One unique phase of the book is a chapter devoted entirely to nystagmus.

The average ophthalmologist will find this book a worthwhile study in the diagnosis and treatment of abnormalities of the ocular muscles, bringing him up to date with the developments of the last few years.

C. C. J.

THE EXTRA-OCULAR MUSCLES

A clinical study of normal and abnormal ocular motility. By Luther C. Peter, M.D., Sc. D. Second edition, thoroughly revised, 350 pages, 136 illustrations, and five colored plates. Lea and Febiger, Philadelphia, 1936. Price, \$4.50.

The first edition of this book was published nine years ago. Since that time ophthalmologists have changed many of their conceptions relative to the diagnosis and treatment of abnormalities of the ocular muscles. The apparent intent of this book is to present the modern concept clearly and concisely.

The first eighty pages are devoted to the anatomy and physiology of the individual muscles and their adnexia; then their actions as antagonists, synergists, and from a conjugative viewpoint are presented. This is the foundation for the following two chapters which discuss heterophoria and heterotropia and represent the most important part of the book. The

MODERN TREATMENT AND FORMULARY

By Edward A. Mullen, M.D., assistant professor of pharmacology and physiology, Philadelphia College of Pharmacy and Science. F. A. Davis & Company, Philadelphia, 1936. Price, \$5.00.

Practical information is presented in compact form in this volume for the busy physician. Most of the book is devoted to the essentials of treatment of various diseases, which are arranged alphabetically. In addition to a brief resumé of the principles of treatment of the specific condition there are over 2,000 selected prescriptions from numerous authors.

The appendix contains dosage tables, diet lists, food values, emergency measures and other handy reference tables.

This is an excellent little volume which is replete with practical information. The suggested therapy is sound and conforms to the U. S. Pharmacopeia.

D. H. K.



Prince F. Sawyer, M.D.

President

Iowa State Medical Society

1936-1937

The JOURNAL

of the

Iowa State Medical Society

VOL. XXVII

DES MOINES, APRIL, 1937

No. 4

IOWA STATE MEDICAL SOCIETY

Organized in 1850

Eighty-sixth Annual Session

Sioux City, Iowa, May 12, 13, and 14, 1937

Do not fail to register. Registration Bureau—Masonic Temple



PROGRAM

Wednesday, May 12

9:00 a. m.

Main Auditorium—Masonic Temple

Call to Order—

PRINCE E. SAWYER, M.D., President,
Iowa State Medical Society

Invocation—

REV. EDWARD W. STIMSON, Sioux City, Iowa

Greetings—

THOMAS R. GITTINS, M.D., President,
Woodbury County Medical Society

Response—

DOUGLAS N. GIBSON, M.D., Des
Moines, Second Vice President, Iowa
State Medical Society

Symposium: Gallbladder Diseases—
Anatomy—

9:30-11:30

EWEN M. MACEWEN, M.D., Iowa City

Medical Phase—

FRED M. SMITH, M.D., Iowa City

X-ray—

CARL L. GILLIES, M.D., Iowa City

Surgical Phase—

FRANK R. PETERSON, M.D., Iowa City

Presidential Address—

11:30-12:00

PRINCE E. SAWYER, M.D., Sioux City

Thursday, May 13

9:00 a. m.

Main Auditorium—Masonic Temple

Syphilis of the Heart and Aorta, and
Medical Clinic—

9:00-10:00

LOUIS HAMMAN, M.D., Associate Pro-
fessor of Medicine, Johns Hopkins
University School of Medicine, Balti-
more, Maryland

Endocrinology as Related to Surgery,
and Surgical Clinic—

10:00-11:00

DEAN D. LEWIS, M.D., Professor of
Surgery, Johns Hopkins University
School of Medicine, Baltimore, Mary-
land

Recent Views of Senile Cataract—

11:00-11:30

SANFORD R. GIFFORD, M.D., Professor
of Ophthalmology, Northwestern Uni-
versity Medical School, Chicago, Illi-
nois. Guest, Eye, Ear, Nose and
Throat Section

Hyperinsulinism and Hypoglycemia in
Infants and Children—

11:30-12:00

ALEXIS F. HARTMANN, M.D., Profes-
sor of Pediatrics, Washington Univer-
sity School of Medicine, St. Louis,
Missouri

Sectional Conferences

Wednesday Afternoon, May 12

MEDICAL SECTION Robert N. Larimer, M.D., Chairman LODGE ROOM NO. 2	SURGICAL SECTION Walter A. Sternberg, M.D., Chairman LODGE ROOM NO. 3	EYE, EAR, NOSE AND THROAT SECTION Wayne J. Foster, M.D., Chairman LODGE ROOM NO. 1
Relation of Gallbladder Disease to Certain Heart Conditions— JOHN W. THORNTON, M. D., Lansing	Fractures—Hip Surgery— 2:00-2:30 CARL J. LOHMANN, M.D., Burlington	The Treatment of Trachoma— JAMES H. ALLEN, M.D., Iowa City
Discussors— GEORGE B. CROW, M. D., Burlington MERLE J. McGRANE, M. D., New Hampton	Discussors— BARCLAY J. MOON, M.D., Cedar Rapids WALTER SCOTT, M.D., Sioux City	Discussors— HERMAN C. KLUEVER, M.D., Fort Dodge HAROLD O. GARDNER, M.D., Waterloo
Brucellosis— 2:30-3:00 LEE R. WOODWARD, M.D., Mason City	What We Should Expect From Transurethral Prostatic Resection— 2:30-3:00 WAYLAND K. HICKS, M.D., Sioux City	Advantages of Bionicroscopy in Certain Cases of Beginning Ocular Pathology— WAYLAND H. MALOX, M.D., Shenandoah
Discussors— NELSON M. WHITEHILL, M.D., Boone CARL F. JORDAN, M.D., Des Moines	Discussors— HOMER W. SCOTT, M.D., Fort Dodge WENDELL L. DOWNING, M.D., Le Mars	Discussors— EDWARD C. NOWAK, M.D., New Hampton JOHN H. MATHESON, M.D., Des Moines
Present Trends in Pulmonary Diagnosis and Therapy— 3:00-3:30 CLINTON E. HARRIS, M.D., Grinnell	Surgical and Hormonal Treatment of the Undescended Testicle 3:00-3:30 JOHN W. DUNCAN, M.D., Omaha, Nebraska	The Advantages and Disadvantages of Some of the New Procedures in Catarract Extractions— ELMER P. WEIH, M.D., Clinton
Discussors— JOHN H. PECK, M.D., Oakdale ALDIS A. JOHNSON, M.D., Council Bluffs	Tumors of the Breast— 3:30-4:00 GRANT AUGUSTINE, M.D., Council Bluffs	Discussors— EDWIN C. COBB, M.D., Marshalltown ABBOTT M. DEAN, M.D., Council Bluffs
The Frequency of Syphilis and Neurosyphilis in Chronic Alcoholics— 3:30-4:00 ROBERT A. STEWART, M.D., Independence	Discussors— HENRY J. HEUSINKVELD, M.D., Clinton EDWARD S. PARKER, M.D., Ida Grove	The External Frontal Operation (Motion Pictures)— DEAN M. LIERLE, M.D., Iowa City
A Comparison of Defects in Various Types of Anemia— 4:00-4:30 FREDERICK H. LAMB, M.D., Davenport	Goiter— 4:00-4:30 KENNETH L. JOHNSTON, M.D., Oskaloosa	
Discussors— NELSON L. HERSEY, M.D., Independence WILLIS M. FOWLER, M.D., Iowa City	Discussors— M. C. HENNESSY, M.D., Council Bluffs ERNEST J. LESSENGER, M.D., New London	

Sectional Conferences

Thursday Afternoon, May 13

MEDICAL SECTION		SURGICAL SECTION		EYE, EAR, NOSE AND THROAT SECTION	
Robert N. Larimer, M.D., Chairman LODGE ROOM NO. 2		Walter A. Sternberg, M.D., Chairman LODGE ROOM NO. 3		Wayne J. Foster, M.D., Chairman LODGE ROOM NO. 1	
Diarrheas— JOHN C. PARSONS, M.D., Des Moines Discussors— JULIAN E. MCFARLAND, M.D., Leon ALBERT A. SCHULTZ, M.D., Fort Dodge		Bone Tumors: Osteosarcoma— 2:00-2:30 JOHN T. HANNA, M.D., Burlington Discussors— KARL R. WERNDORFF, M.D., Council Bluffs W. EUGENE WOLCOTT, M.D., Des Moines		The Treatment of Corneal Infections— SANFORD R. GIFFORD, M.D., Chicago, Illinois, Guest Speaker	
Vincent's Infection in Children— 2:30-3:00 Unusual Symptoms Due to Round Worm Infestation— ROLAND W. STAHR, M.D., Fort Dodge Discussors— ROY M. CONMEY, M.D., Sergeant Bluff NELLE T. SCHULTZ, M.D., Humboldt		Preoperative and Postoperative Care— 2:30-3:00 JOHN E. BRINKMAN, M.D., Waterloo Discussors— DONALD C. CONZETT, M.D., Dubuque LESTER D. POWELL, M.D., Des Moines		The X-ray Becomes an Adjunct to Otolaryngologic Therapy— LESLIE G. HOWARD, M.D., Council Bluffs Discussors— JOHN K. VON LACKUM, M.D., Cedar Rapids CECIL C. JONES, M.D., Des Moines	
The Prevention and Treatment of Severe Disturbances in Water and Electrolyte Balance— ALEXIS F. HARTMANN, M.D., St. Louis, Missouri		Surgery of the Large Bowel— 3:00-3:30 CLAUDE F. DIXON, M.D., Rochester, Minnesota		Progress in the Management of Paranasal Sinus Disease— GEORGE C. ALBRIGHT, M.D., Iowa City	
The Prevention and Treatment of Whooping Cough— RUSL P. NOBLE, M.D., Cherokee Discussors— PERCE D. KNOTT, M.D., Sioux City ROBERT O. HUGHES, M.D., Ottumwa		Surgery in the Diabetic Patient— 3:30-4:00 JOSEPH B. PRIESTLEY, M.D., Des Moines Discussors— WALTER F. HARRIMAN, M.D., Sioux City BUSH HOUSTON, M.D., Nevada		Discussors— JOHN B. GREGG, M.D., Sioux Falls, South Dakota J. J. PORTER, M.D., Iowa City	
Present Status in Serum Treatment of Scarlet Fever and Measles— LEE F. HILL, M.D., Des Moines Discussors— GLENN E. HARRISON, M.D., Mason City JACOB N. LANDE, M.D., Sioux City		Surgical Aspects of Obstetrics— 4:00-4:30 JAMES C. DONAHUE, M.D., Centerville Discussors— BYRON D. HARTLEY, M.D., Mt. Pleasant ARTHUR G. PLANKERS, M.D., Dubuque		The Little Things We Do in Everyday Practice of the Head Specialties— THOMAS R. GITTINS, M.D., Sioux City Discussors— JOHN A. THORSON, M.D., Dubuque J. E. ROCK, M.D., Davenport	

Wednesday Evening, May 12

9:00 p. m.

Roof Garden—Commerce Building

Smoker

Several rounds of boxing by men from the
Golden Gloves Tournament

Dutch Lunch

Thursday Evening, May 13

ANNUAL BANQUET

Hotel Martin

6:30 p. m.

Toastmaster—

ARTHUR D. WOODS, M.D., State Center

Society Cooperation—

PRINCE E. SAWYER, M.D., Sioux City

Address by the President-Elect—

EDWARD M. MYERS, M.D., Boone

Address—

MR. ARTHUR F. BRIESE, Chicago

Music—Entertainment—Dancing

Friday, May 14

9:00 a. m.

Main Auditorium—Masonic Temple

Surgical Lesions of the Breast and Sur-
gical Clinic—

DEAN D. LEWIS, M.D., Baltimore

9:00-10:00

Abdominal Tumors, and Medical Clinic—

LOUIS HAMMAN, M.D., Baltimore

10:00-11:00

Medical Economics—

CHARLES GORDON HEYD, M.D., Presi-
dent, American Medical Association

11:00-11:30

Report of House of Delegates—

Installation of the President—

11:30-12:00

State Society of Iowa Medical Women

and

BRANCH 19, MEDICAL WOMEN'S NATIONAL
ASSOCIATION

Fortieth Annual Meeting

Wednesday, May 12, 1937

Martin Hotel

LUNCHEON

12:15 p. m.

Business Meeting of State Society of
Iowa Medical Women

Alice Humphrey Hatch, M.D., Des Moines, presiding

Greetings—

EPPIE MCCREA, M.D., Eddyville
ELIZABETH WOODWORTH, M.D., Min-
neapolis, Minnesota
HAZEL LAMB, M.D., Sioux Falls,
South Dakota
OLGA STASTNY, M.D., Omaha, Ne-
braska

Pellegrini-Stieda Disease with Report of a Case—

JESSIE B. HUDSON, M.D., Sheffield

DINNER

6:30 p. m.

Business Meeting of Branch 19, Medical
Women's National Association

Election of Officers of Both Societies—

The Value of Medical Supervision During Early
Childhood—

GOLDIE E. ZIMMERMAN, M.D., Sioux
Falls, South Dakota

Trichomonas—

NORA WINTHERS, M.D., Minneapolis,
Minnesota

The Women's Medical College—

GRACE O. DOANE, M.D., Des Moines

OFFICERS

President.....ALICE HUMPHREY HATCH, M.D., Des Moines

Secretary.....ROSABELLE A. BUTTERFIELD, M.D., Indianola

Treasurer..JEANNETTE DEAN-THROCKMORTON, M.D., Des Moines

Committee on Arrangements.....
.....EMMA M. ACKERMAN, M.D., Sioux City

Our Guests



DEAN D. LEWIS, M.D.
Baltimore



CHARLES GORDON HEYD, M.D.
New York City



LOUIS HAMMAN, M.D.
Baltimore



SANFORD R. GIFFORD, M.D.
Chicago



ALEXIS F. HARTMANN, M.D.
St. Louis



JOHN W. DUNCAN, M.D.
Omaha



CLAUDE F. DIXON, M.D.
Rochester

HOUSE OF DELEGATES

Main Auditorium—Masonic Temple

Wednesday, May 12

3:30 p. m.

Roll Call

Approval of Minutes of Friday Morning Session, 1936

Report of Secretary

Report of Treasurer

Report of Board of Trustees

Report of Council

Report of the Delegates to the American Medical Association

Reports of Standing Committees of the House of Delegates:

Committee on Constitution and By-Laws—

WALTER R. BROCK, Sheldon, Chairman

Committee on Finance—

ERNEST C. McCLURE, Bussey, Chairman

Committee on Medical Economics—

THOMAS F. THORNTON, Waterloo, Chairman

Committee on Medical Education and Hospitals—

ARTHUR W. ERSKINE, Cedar Rapids, Chairman

Medico-Legal Committee—

FRANK A. ELY, Des Moines, Chairman

Committee on Necrology—

C. W. ELLYSON, Waterloo, Secretary

Committee on Publication—

LEE FORREST HILL, Des Moines, Editor

Committee on Public Policy and Legislation—

FRED MOORE, Des Moines, Chairman

Reports of Special Committees of the House of Delegates:

Baldridge Memorial Committee—

L. C. KERN, Waverly, Chairman

Committee on Child Health and Protection—

R. H. McBRIDE, Sioux City, Chairman

Historical Committee—

WALTER L. BIERRING, Des Moines, Chairman

Medical Library Committee—

JEANNETTE DEAN-THROCKMORTON, Des Moines, Librarian

Committee on Military Affairs—

HAROLD A. SPILMAN, Ottumwa, Chairman

Committee on Scientific Exhibits—

F. P. McNAMARA, Dubuque, Chairman

Woman's Auxiliary Advisory Committee—

ALDIS A. JOHNSON, Council Bluffs, Chairman

Reports of Council Committees:

Speakers Bureau Committee—

DANIEL J. GLOMSET, Des Moines, Chairman

Cancer Committee—

F. P. McNAMARA, Dubuque, Chairman

Memorials and Communications

New Business

Election of Committee on Nominations

Friday, May 14

7:00 a. m.

Lodge Room No. 1—Masonic Temple

Roll Call

Reading of Minutes

Report of Committee on Nominations

Election of Officers

Reports of Committees

Unfinished Business

New Business

Announcement of Committees

Adjournment

ENTERTAINMENT

Tuesday, May 11

1:00 p. m.

Country Club

Pre-convention Golf Tournament

7:00 p. m.

Egyptian Room, The Oasis

Dinner

Awarding prizes, cards and entertainment

Wednesday, May 12

12:15 p. m.

State Society of Iowa Medical Women

Luncheon and Program

Martin Hotel

4:30 p. m.

Woman's Auxiliary Tea

Martin Hotel

6:30 p. m.

State Society of Iowa Medical Women and
Branch 19, Medical Women's National Association

Banquet and Program

Martin Hotel

7:00 p. m.

Woman's Auxiliary

Banquet and Program

Warrior Hotel

8:00 p. m.

Woman's Auxiliary and Visiting Women

Bridge Party

Warrior Hotel

9:00 p. m.

Stag and Smoker

Roof Garden—Commerce Building

Thursday, May 13

12:30 p. m.

Auxiliary Luncheon, Hotel Martin

All Visiting Ladies Invited

6:30 p. m.

Annual Banquet, Martin Hotel

Physicians, their wives and guests

Arrangements Committee

PRINCE E. SAWYER.....Sioux City

ROBERT L. PARKER.....Des Moines

HAROLD J. MCCOY.....Des Moines

THOMAS R. GITTINS.....Sioux City

R. H. McBRIDE.....Sioux City

HEADQUARTERS



Masonic Temple

MEETING PLACES

Hotel Headquarters—Warrior Hotel
 General Headquarters—Masonic Temple
 General Session Meetings—Main Auditorium, Masonic Temple
 Medical Section—Lodge Room No. 2, Masonic Temple
 Surgical Section—Lodge Room No. 3, Masonic Temple
 Eye, Ear, Nose and Throat Section—Lodge Room No. 1, Masonic Temple
 House of Delegates—Wednesday: Main Auditorium, Masonic Temple—Friday: Lodge Room No. 1
 Registration Desk—Main Lobby
 Commercial Exhibits—Banquet Room, Ground Floor and Main Lobby, First Floor
 Scientific Exhibits—Lounge, First Floor
 Headquarters for State Society of Iowa Medical Women—Martin Hotel
 Headquarters for Woman's Auxiliary—Martin Hotel

SPECIAL MEETINGS

Iowa Alumni Association Luncheon
 Wednesday, May 12
 Warrior Hotel, 12:15 p. m.

County Secretaries Conference Luncheon
 Wednesday, May 12
 Warrior Hotel, 12:15 p. m.

Past Presidents Luncheon
 Wednesday, May 12
 Warrior Hotel, 12:15 p. m.

Military Surgeon's Dinner
 Wednesday, May 12
 Warrior Hotel, 6:30 p. m.

Eye, Ear, Nose and Throat Section Luncheon
 Thursday, May 13
 Warrior Hotel, 12:15 p. m.

Iowa Pediatric Club Luncheon
 Thursday, May 13
 West Hotel, 12:15 p. m.

Section Chairmen and Reporters

Section on Medicine—

Chairman, ROBERT N. LARIMER, M.D., Sioux City
 Vice-Chairman, ARTHUR D. WOODS, M.D., State Center

Section on Surgery—

Chairman, WALTER A. STERNBERG, M.D., Mt. Pleasant

Section on Ophthalmology, Otology and Rhinology—

Chairman, WAYNE J. FOSTER, M.D., Cedar Rapids

Reporter, General Sessions and House of Delegates—

MASTER REPORTING COMPANY, Chicago

Rules for Papers and Discussions

For the general session meetings, no address or paper, except those of the President and the Guests, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on any subject in discussing a paper. All papers read before the Society shall be the property of the Society. Each paper should be deposited with the Secretary when read; if this is not done, it will not be published.

In most of the sectional meetings, the talks are twenty minutes in length. Discussions may not be longer than five minutes. A typewritten copy of each talk should be left with the chairman of the section so that it can be published in the Journal.

Do not fail to register. Your badge will permit you to attend all scientific and social sessions of the Society.

Please bring your membership card for presentation at the registration desk. It entitles you to attend the meeting without cost.

Women attending the meeting are urged to register at the registration desk for the Woman's Auxiliary at the Hotel Martin.

IOWA STATE MEDICAL SOCIETY OFFICERS AND COMMITTEES 1936-37

President.....	Prince E. Sawyer, Sioux City
President-Elect.....	Edward M. Myers, Boone
First Vice President.....	Frank J. Rohner, Iowa City
Second Vice President.....	Douglas N. Gibson, Des Moines
Secretary.....	Robert L. Parker, Des Moines
Treasurer.....	Harold J. McCoy, Des Moines

COUNCILORS

	Term Expires
First District—Felix A. Hennessy, Calmar, Chairman.....	1937
Second District—Lee R. Woodward, Mason City.....	1938
Third District—Frank P. Winkler, Sibley.....	1939
Fourth District—James E. Reeder, Sioux City.....	1940
Fifth District—Earl B. Bush, Ames.....	1941
Sixth District—Charles W. Ellyson, Waterloo.....	1937
Seventh District—Arthur W. Erskine, Cedar Rapids.....	1938
Eighth District—Clyde A. Boice, Washington.....	1939
Ninth District—Harold A. Spilman, Ottumwa.....	1940
Tenth District—James G. Macrae, Creston.....	1941
Eleventh District—M. C. Hennessy, Council Bluffs.....	1937

TRUSTEES

Oliver J. Fay, Des Moines.....	1937
John I. Marker, Davenport.....	1939
John C. Parsons, Creston.....	1938

DELEGATES TO A. M. A.

Fred Moore, Des Moines.....	1937
T. F. Thornton, Waterloo.....	1938
V. L. Treyner, Council Bluffs.....	1938

ALTERNATE DELEGATES TO A. M. A.

E. M. MacEwen, Iowa City.....	1937
R. H. Lott, Carroll.....	1938
F. P. McNamara, Dubuque.....	1938

THE JOURNAL

Lee Forrest Hill, Editor.....	Des Moines
Ralph R. Simmons, Associate Editor.....	Des Moines

STANDING COMMITTEES OF THE HOUSE OF DELEGATES

ARRANGEMENTS

Prince E. Sawyer, Chairman.....	Sioux City
Robert L. Parker.....	Des Moines
Harold J. McCoy.....	Des Moines

CONSTITUTION AND BY-LAWS

W. R. Brock, Chairman.....	Sheldon
John H. Henkin.....	Sioux City
C. L. Putnam.....	Holstein

FINANCE

Ernest C. McClure, Chairman.....	Bussey
Leslie L. Carr.....	Clermont
A. S. Bowers.....	Orient

MEDICAL ECONOMICS

T. F. Thornton, Chairman.....	Waterloo
James C. Hill.....	Newton
James C. Donahue.....	Centerville
A. C. Moerke.....	Burlington
M. C. Hennessy.....	Council Bluffs

MEDICAL EDUCATION AND HOSPITALS

Arthur W. Erskine, Chairman.....	Cedar Rapids
T. J. Irish.....	Forest City
B. J. Dierker.....	Fort Madison

MEDICO-LEGAL

Frank A. Ely, Des Moines, Chairman.....	1938
George C. Albright, Iowa City.....	1939
F. Earl Bellinger, Council Bluffs.....	1937

PUBLICATION COMMITTEE

Lee Forrest Hill, Editor.....	Des Moines
Ralph R. Simmons, Associate Editor.....	Des Moines
Robert L. Parker, Secretary.....	Des Moines
Oliver J. Fay, Trustee.....	Des Moines
John I. Marker, Trustee.....	Davenport
John C. Parsons, Trustee.....	Creston

PUBLIC POLICY AND LEGISLATION

Fred Moore, Chairman.....	Des Moines
R. D. Bernard.....	Clarion
S. W. Corbin.....	Millerton
Prince E. Sawyer.....	Sioux City
Robert L. Parker.....	Des Moines

SCIENTIFIC WORK

Prince E. Sawyer.....	Sioux City
Edward M. Myers.....	Boone
Robert L. Parker.....	Des Moines
Harold J. McCoy.....	Des Moines

SPECIAL COMMITTEES OF THE HOUSE OF DELEGATES

BALDRIDGE MEMORIAL

L. C. Kern, Chairman.....	Waverly
B. F. Wolverton.....	Cedar Rapids
A. D. Woods.....	State Center

COMMITTEE ON CHILD HEALTH AND PROTECTION

R. H. McBride, Chairman.....	Sioux City
E. D. Plass.....	Iowa City
H. E. Farnsworth.....	Storm Lake
Lee F. Hill.....	Des Moines
Howard A. Weis.....	Davenport
C. P. Phillips.....	Muscatine
Roland Stahr.....	Fort Dodge

HISTORICAL

Walter L. Bierring, Chairman.....	Des Moines
Frank M. Fuller.....	Keokuk
T. B. Throckmorton.....	Des Moines
John T. McClintock.....	Iowa City
R. T. Leneghan.....	Clinton
William Jepson.....	Sioux City

MEDICAL LIBRARY

Con R. Harken, Chairman.....	Osceola
Carl L. Gillies.....	Iowa City
Jeannette Dean-Throckmorton.....	Des Moines

MILITARY AFFAIRS

Harold A. Spilman, Chairman.....	Ottumwa
Ira N. Crow.....	Fairfield
E. M. MacEwen.....	Iowa City

SCIENTIFIC EXHIBITS

F. P. McNamara, Chairman.....	Dubuque
Frederick H. Lamb.....	Davenport
Allen C. Starry.....	Sioux City

WOMAN'S AUXILIARY ADVISORY COMMITTEE

Aldis A. Johnson, Chairman.....	Council Bluffs
Roy A. Becker.....	Atlantic
Charles F. Snopek.....	Cresco
F. M. Roberts.....	Knoxville

COMMITTEES OF THE COUNCIL

SPEAKERS BUREAU COMMITTEE

Daniel J. Glomset, Chairman.....	Des Moines
Earl B. Bush.....	Ames
L. C. Kern.....	Waverly
Harold L. Brereton.....	Emmetsburg
Sydney D. Maiden.....	Council Bluffs
James E. Dunn.....	Davenport

WOMAN'S AUXILIARY

Iowa State Medical Society

Organized May 9, 1929, Des Moines, Iowa
Eighth Annual Meeting
Registration Headquarters
Hotel Martin

PROGRAM

Wednesday, May 12

10:00 a. m.

Preconvention Meeting
For Board Members and
County Auxiliary Presidents

12:00 m.

Luncheon

For Board Members and
County Auxiliary Presidents

2:15 p. m.

Hotel Martin

General Meeting

President, Mrs. C. A. Boice, presiding

Call to Order—

MRS. C. A. BOICE, Washington

Invocation—

REV. JAMES DAVIES, Sioux City

Address of Welcome—

MRS. P. B. McLAUGHLIN, Sioux City

Response—

MRS. M. C. HENNESSY, Council Bluffs

In Memoriam—

MRS. H. H. HAGEDORN, Sioux City

Presentation of Membership Cup—

MRS. JAMES DOWNING, Des Moines

Rules for Convention

Report of President—

MRS. C. A. BOICE

Announcement of Committees

Reports of Auxiliary State Officers

Reports of Standing Committees

Registration Committee—

MRS. JAMES REEDER, Chairman

Announcements—

MRS. J. C. DECKER, Chairman
Committee on Arrangements

Adjournment

4:30 p. m.

Tea

Hotel Martin

7:00 p. m.

Hotel Warrior

Dinner

Morningside College Quartet
String Quartet
Shrine Chanters
Vocal Solo—Della Beth Debey

8:30 p. m.

Hotel Warrior

Bridge

All visiting women as well as Auxiliary members
are invited to attend

Thursday, May 13

9:30 a. m.

Hotel Martin

Reading of Minutes of Previous Meeting
Reports of County Presidents
Address—

CHARLES GORDON HEYD, President,
American Medical Association

Introduced by—

WALTER L. BIERRING, M.D., Des Moines

Adjournment

1:00 p. m.

Luncheon

Hotel Martin

Vocal Solo—Mrs. Frederick Roost
Vocal Solo—Harold Decker

Greetings—

PRINCE E. SAWYER, M.D., President,
Iowa State Medical Society

Greetings—

EDWARD M. MYERS, M.D., President-Elect,
Iowa State Medical Society

Address—

DEAN D. LEWIS, M.D., Baltimore, Maryland

Reading of Minutes

Report of Resolutions Committee

Election of Officers

Installation of Officers

Adjournment

Post Convention Board Meeting

6:30 p. m.

Banquet, Hotel Martin
Physicians, wives and guests

This program, social and business, is for all visiting
women. All eligible women are urged to become
members.

Sioux City--The 1937 Host City

Those who enjoyed the hospitality of the Woodbury County Medical Society at the time of the annual meeting in Sioux City in 1932, will appreciate the treat awaiting them when the Society convenes there on May 12th, 13th and 14th for its Eighty-sixth Annual Session. Immediately after the selection of the convention city for 1937, committee members, numbering thirty-two, have been busily engaged preparing for their rôle as hosts to the Iowa State Medical Society. The stage is now set and invitations from every group are now pouring into the central office to be extended to the membership throughout the state.

The Convention will begin unofficially and informally for many members on Tuesday noon, May 11th, when the golfing doctors assemble to match their skills in the ancient and honorable game of golf. A pleasant afternoon and evening full of entertainment have been planned for those who wish to chase the little white "pill" instead of prescribing it for this one day. A detailed announcement of this pre-convention feature is carried elsewhere in this Journal.

President Sawyer will sound the official gavel and call the meeting to order at 9:00 A. M. on Wednesday morning, May 12th. The convention will again be housed in the pleasant and commodious quarters of the Masonic Temple. The following two and one-half days of scientific meetings present an array of domestic and foreign talent that cannot be surpassed. Each minute offers a full sixty second's worth of value and the only difficulty confronting the profession is the selection of which of the three sectional meetings in the afternoon they can least afford to miss. The evenings have been arranged to give as much pleasure and relaxation as the days present in intellectual stimulation. At the stag smoker several rounds of boxing matches by men from the famous Golden Gloves tournament will provide exciting intervals between rounds of visiting, smoking, lunching, etc. The banquet is to be short on set speeches and long on unexpected and hilarious entertainment, accompanied by the social graces of music, dancing, etc.

Sioux City provides an excellent setting for a combined meeting of the State Society of Iowa Medical Women and Branch 19 of the Medical Women's National Association. Members and speakers from Iowa and her three sister states, Nebraska, South Dakota and Minnesota, will make possible an unusually interesting meeting of the medical women at their luncheon and dinner meetings on the first day of the convention.

Generous provision has been made for the entertainment of the doctors' wives. Whether or not they are members of the Woman's Auxiliary, they are cordially invited to attend all of the meetings, both business and social. With a tea planned for Wednesday at 4:30 P. M., a dinner at 7:00 P. M., a bridge party at 8:00 P. M., a luncheon Thursday noon at

which the president and president-elect of the State Society will bring greetings, the joint banquet of the doctors and their wives Thursday evening, business sessions and addresses by two of the guest speakers at the main meetings, Dr. Charles Gordon Heyd, president of the American Medical Association and Dr. Dean D. Lewis of Johns Hopkins University School of Medicine, the first two days of the meeting are crowded to capacity limits. The formal program of the Woman's Auxiliary is completed Thursday evening, leaving Friday morning free for that which is a delight to any woman—sightseeing or shopping.

All who attend the Sioux City meeting may well spend a few hours in visiting the interesting spots of the city, which is rich in the history of this section of the country. The first authentic account we have of white man's appearance on the ground of what is now Sioux City is that of the famous exploring expedition of Lewis and Clark in 1804. On August 20, of that year one of the party, Sergeant Charles Floyd, died and was buried on a high bluff now in the south part of Sioux City. Later a beautiful stone monument was erected to his memory by the citizens of the city and by the government. This straight shaft of white stone extending upward toward the sky calls to the memory of the people the first appearance of white man in this country. This monument was recently voted the most historical spot in Iowa. From a small beginning as a trading post with the Indians, Sioux City has developed into what is now called the foremost industrial center of Iowa, with a vast trade territory including parts of seven states.

Sioux City is well known as the home of the famous Monahan Post Band, but it is doubtful whether as many are aware that it is also the home of the nationally famous Abu Bekr Shrine Mounted Patrol, which includes forty pure bred white Arabian horses and their riders. The organization of this Patrol dates back to the inauguration of President Roosevelt in 1905. At that time sixty-four cow punchers, including Bert Waite of Sioux City, shipped their horses to Washington and went there themselves, where they conducted a rodeo on the White House grounds. This trip sowed the seed and the idea for the present magnificent patrol. Fifteen horses participated in the first Shrine parade, and the organization has steadily grown and improved from that time until now. The riders have numbered in the ranks judges, mayors, doctors, lawyers, bankers, musicians, police officers, hog callers, etc. An estimate placed on the value of the horses at the present time is from fifty thousand to one hundred thousand dollars.

Those who attended the 1932 meeting will find many new buildings and developments in Sioux City. Among these are the new post office, county courthouse and the band shell at Grandview Park, a structure which is proclaimed one of the finest of its kind in this part of the country.

An innovation in the program of the State Society this year is a program for the general public on the first evening. This is part of the general educational campaign regarding cancer, and several short talks on this subject will be presented at an opening meeting to be held at the Masonic Temple. Preceding the lectures, the cancer exhibit and other scientific exhibits will be open for the inspection of those attending the meeting.

The exhibits, both commercial and scientific will play their usual prominent rôles. An extra half-hour is being allowed at noon so that the members will have a better opportunity to visit the displays. The commercial firms have responded to our invitation to exhibit in their usual generous manner. These exhibits will be housed in the large banquet room on the ground floor and in the main floor lobby. All who enter the building must pass through these rooms. It is hoped that they will remember that these commercial firms are in a large measure making possible the annual meeting and will extend to them the courtesy of attention to their exhibits. The scientific exhibits continue to grow in number and value each year. The presentation this year promises to be exceptionally outstanding. A detailed description of exhibits will be carried in the hand program.



WARRIOR HOTEL

The Hotel Warrior is the headquarters hotel during the meeting and its schedule of rates and those of the other hotels which have extended an invitation to members of the Iowa State Medical Society are quoted here for the convenience of physicians in making reservations in advance:

Hotel Warrior: Single rooms with bath—\$2.50, \$3.00, \$3.50 and \$4.00; double rooms with bath—\$4.00, \$5.00, \$5.50 and \$6.00.

Hotel Martin: Single rooms with bath—\$2.50, \$3.00, \$3.50 and \$4.00; double rooms with bath—\$4.00, \$5.00, \$6.00 and \$7.00; single rooms without bath—\$1.75 and \$2.00, double rooms—\$3.00 and \$3.50.

Hotel West: Single rooms with bath—\$2.00, \$2.50 and \$3.00; double rooms with bath—\$3.00, \$4.00 and \$4.50; single rooms without bath—\$1.25, \$1.50 and \$1.75; double rooms without bath—\$2.50 and \$2.75.

Hotel Jackson: Single rooms with bath—\$2.00 to

\$3.00; double rooms with bath—\$2.50 to \$4.00; single rooms with shower—\$1.25 to \$1.50; double rooms with shower—\$1.75 to \$2.00.

It is deemed fitting that a word of appreciation should be extended to the members of the local committees of the Woodbury County Medical Society and to the Sioux City Chamber of Commerce who are responsible for the local arrangements and entertainment. Their efforts are herewith acknowledged and the full list of the committees given. Central Committee: R. H. McBride, chairman, W. E. Cody, J. A. Thompson, I. C. Vangsness, T. R. Gittins, P. E. Sawyer and Chas. Maxwell. Entertainment committees—banquet: C. A. Katherman, chairman, F. D. McCarthy, Leo L. Wilson, J. S. Tracy and W. K. Hicks; Smoker: W. H. Gibbon, chairman, C. P. McHugh, Walter Scott, P. E. Leahy and Joe Krigsten. Special Arrangements committee, J. H. Henkin, chairman—Clinics: eye, ear, nose and throat, L. R. Tripp; medical, R. J. Harrington; pediatrics, Peirce Knott; surgery, W. F. Harriman; Women's Division: Dr. Emma Ackerman; Contact with Auxiliary: J. C. Decker; Past Presidents' Luncheon: William Jepson; House committee: H. I. Down, chairman, J. W. Graham, A. Q. Johnson, J. D. Lutton and R. F. Martin; Reception committee: R. N. Larimer, chairman; Finance committee: Joe Dvorak, chairman, L. E. Pierson and John Schwartz.

In spite of the fact that it is located in the extreme western part of the state, Sioux City is easily available by bus, rail or car. It is hoped that on May 12, 13 and 14 all roads will lead west for members of the Iowa State Medical Society.

THIRD ANNUAL GOLF TOURNAMENT

The third annual tournament of the Iowa State Medical Golf Association will be held at the Sioux City Country Club, Tuesday, May 11th. Playing will begin at 1:00 P. M. Dinner will be served at 7:00 P. M. at the Egyptian Room of the Oasis, which has been reserved for the entire evening, when prizes will be awarded to the afternoon's winners.

The champion of the Iowa State Medical Golf Association will be the one who turns in the lowest gross score. Authenticated handicaps should be presented to the chairman of the local committee and from these a low net will be awarded as well as a prize for the lowest putting score, but no individual shall be awarded more than one prize. Green fees will be \$1.50 and the dinner \$1.00. Reservations should be made in advance with L. E. Pierson, M.D., 308 Trimble Building, Sioux City. Even if this is not possible, all golf fans are urged to attend the tournament as it is expected to be the best one in the short history of this organization.

The local committee announces that, through the courtesy of the Spaulding Athletic Company, a moving picture film of Bobby Jones and other famous golf players will be shown during the after dinner entertainment following the tournament.

O. W. King, M.D., President,
Iowa State Medical Golf Association

THE CLINICAL MANAGEMENT OF DIABETES MELLITUS USING PROTAMINE ZINC INSULIN*

E. B. WINNETT, M.D., F.A.C.P., Des Moines

The rapidly increasing usage of protamine zinc insulin in the treatment of diabetes mellitus, together with the prospect of its extensive and almost universal administration in the immediate future, necessitates emphasizing certain fundamental principles involved in the application of this drug to the diabetic patient. Advances in therapeutic management appearing on many fronts deserve due consideration. Differences between this new and the old insulin in regard to action, dosage, administration, indications, and contraindications, must be understood. It should be remembered that a fundamental working knowledge of diabetes and its many complications, together with a good clinical knowledge of diabetic treatment with the old insulin is paramount for the successful employment of protamine zinc insulin. If one does not have a thorough knowledge of old insulin therapy as a basis of treatment, considerable unnecessary difficulty will arise with the use of protamine zinc insulin. For these reasons I wish to discuss certain practical aspects of protamine zinc insulin therapy, and to report observations drawn from forty patients so treated.

The newer processes employed in the purification of regular insulin to lessen local reactions sometimes seen at the point of injection, both decreased the potency and required more frequent injections. This reduction in efficiency was attributed to the removal of zinc or other metals, small quantities of which exist in the normal pancreas. Scott and Fisher¹ found that the addition of small quantities of zinc or calcium to protamine insulin prolonged the hypoglycemic effect and stabilized the preparation. Larger amounts of zinc inhibited blood sugar lowering qualities. The question then arose as to whether small amounts of zinc added to protamine insulin would result in a zinc accumulation in the body which at some time might inhibit insulin action. The new preparation of protamine zinc insulin contains two-tenths of a milligram of zinc per one hundred units of insulin, which is twenty-five to fifty times less than the amount necessary to inhibit insulin action in animals. Rabinowitch² found that zinc elimination occurs rapidly through the feces. He demonstrated no excess zinc in the blood of men working with the metal over long periods. Exposure to zinc fumes and excessive zinc feedings caused no zinc accumulation in the animal's blood.

Recently DuBray³ reported chronic zinc poisoning in a patient who had employed zinc chloride over a period of years to clean feathers. Other reported cases of zinc poisoning have had arsenic, lead, brass, or other metals associated with the zinc. DuBray established his diagnosis on the occupational history and the presence of zinc in the urine. Rather large amounts of urinary zinc have been reported in patients ingesting oysters or shell fish. Suffice it to say, at present it appears that the zinc present in protamine zinc insulin has a marked beneficial effect and no obvious untoward results. In the group of forty patients treated with protamine zinc insulin, no symptoms have developed to date, in any way suggesting deleterious effects from zinc, nor have any inhibiting effects due to zinc accumulation been evident. After a longer period of clinical usage, more positive information on this point will be available.

TECHNIC OF ADMINISTRATION

To prepare protamine insulin for injection it was necessary to mix the buffered protamine solution with U-50 regular insulin, the resultant mixture being U-40 protamine insulin. Both the buffered solution and protamine insulin required refrigeration and remained stable for only a short period. After the mixture was completed best results were obtained by permitting twenty-four hours to lapse before using so that the protamine became bound to the insulin. The first protamine zinc insulin introduced required a similar process of mixing but the resultant product was more stable. These complicated processes caused the patient great difficulty and inconvenience. Now we have protamine zinc insulin in one bottle already mixed, and stable for at least six months, thus relieving the diabetic patient of this increased burden. The new preparation like the old still requires varying the site of injection to avoid insulin lumps. Protamine zinc insulin is in suspension and not in solution; therefore, the mixture must be thoroughly agitated before withdrawal for injection. Obviously in no other way will the correct dosage be obtained at all times. The syringe and needle should be sterilized in distilled water since any change in the hydrogen ion concentration of the insoluble complex alters its action. At the present time only U-40 protamine zinc insulin is marketed. Patients who require higher unit dosages experience considerable pain because of the large bulk. In addition, large bulk dosage in the patient with arteriosclerosis does not seem logical because necrosis may follow. Through the courtesy of the Eli Lilly and Company, I have been promised U-80 protamine zinc insulin in the near future for clinical trial. I hope

*Presented before the Library Club of Des Moines, February 3, 1937, and before the Des Moines Academy of Medicine and Polk County Medical Society, February 23, 1937.

this dosage will be therapeutically efficacious and obviate this difficulty.

Protamine zinc insulin should be administered subcutaneously and not intravenously by preference. When an immediate blood sugar lowering effect is demanded the fast acting or old insulin should be employed intravenously. In a former paper I pointed out the danger of using protamine insulin intravenously because I feared some untoward results. Waring, Longwell and Ravin⁸ have shown in experiments on animals that protamine insulin with added zinc has the same action as regular insulin when used intravenously.

DIET

The new therapy requires certain alterations in the allocation of the twenty-four hour food intake from that formerly used with regular insulin. Hagedorn³ originally fed 40 per cent of the diet for breakfast, 40 per cent at noon and the remaining 20 per cent for supper, administering protamine insulin in the evening. Rabinowitch feeds his patients between meals and at bed time. Root, White, Marble, and Stotz⁵ gave less food in the morning. Root preferred the smaller morning feeding because less regular morning insulin was required. I have previously⁵ advised equal amounts of food at the three meals with a small feeding at bed time for two reasons; first, the less intelligent patients find greater ease in correctly estimating an evenly distributed diet; and second, protamine zinc insulin given one morning continues to act for at least twenty-four hours and often much longer, therefore exerting hypoglycemic action on the following breakfast. This has been demonstrated many times by low pre-breakfast blood sugar determinations. I further feel that an individual better fits himself for the day's work by eating a substantial breakfast. We must always strive to help diabetic patients live, work and enjoy life like normal individuals.

The proper relative amounts of carbohydrates, protein and fat comprising the diet of diabetic patients who use regular insulin, have been a muted point. Certain observers prefer the high carbohydrate, low fat diet, while others advise the low carbohydrate, high fat ratio. A third group prefers the middle path. This same contention exists with the use of protamine zinc insulin. I feel that diabetic patients can probably be satisfactorily handled by either of the two former methods. However, I decidedly prefer the third method because I wish the diet of diabetic patients to approximate as nearly as possible that of the normal individual. It is my opinion that the high fat intake may predispose to arteriosclerosis and its great disasters. Virchow and Aschoff promul-

gated the theory that improper fat metabolism was the etiologic factor in arteriosclerosis. Joslin⁶ says "The chief cause of premature development of arteriosclerosis in diabetes, save for advancing age, is due to an excess of fat in the body (obesity), in the diet and in the blood". My patients are given 150 to 200 grams of carbohydrate, one gram of protein per kilogram of body weight, and fat enough to maintain normal or slightly under normal body weight. The amount of carbohydrate varies with the patient's general nutrition. In children the protein is increased to three or four grams per kilogram of body weight. Certain vitamin content must always be considered. During pregnancy vitamin D is stressed. When diabetic neuritis exists large doses of vitamin B₁ are given, usually 1,000 to 2,000 international units daily. In general the diet must be well rounded. Some individuals, after starting on this regime, may need dietary alterations. Such patients of course must be treated in a more individualistic manner.

DOSAGE

Certain fundamental principles are involved in establishing the necessary dosage. It is generally conceded that approximately four-fifths of the unit dosage of regular insulin is required when protamine zinc insulin is used. Since protamine zinc insulin acts much slower than regular insulin, and since it has a delayed and extended action not seen with regular insulin, the establishment of the required protamine zinc insulin dosage consumes considerable more time than the establishment of the required dosage of regular insulin. It seems best in the patient who has previously had no insulin therapy to determine first the approximate dosage of regular insulin. After ascertaining the total twenty-four hour unit dosage, protamine zinc insulin may be used by giving four-fifths of the regular insulin dosage in the form of protamine zinc insulin before breakfast, together with two-thirds of the pre-breakfast regular insulin dose. Variations in the protamine zinc insulin dosage then depend upon blood sugar and urinary determinations before breakfast. The dosage of regular insulin is varied according to blood sugar levels two hours after breakfast. Approximately forty-eight hours after beginning protamine zinc insulin therapy, the prolonged action will allow reduction of the regular insulin dosage. In some cases small amounts of regular insulin may be necessary before the noon meal in order to control glucose entering the blood stream from this meal. This suggests that the length of protamine zinc insulin action may vary in different individuals. The degree of pancreatic insufficiency, the presence of infection or complications, or insulin sensitivity,

play a rôle, everything else, such as properly timed exercise, being equal. The timing of protamine zinc insulin dosage is based on the principles governing regular insulin timing, together with certain other features of importance. For example, a patient who showed sugar two hours after the noon meal would require regular insulin before this meal. However, if protamine zinc insulin is given two or three hours before breakfast instead of one hour before breakfast, the mid-day dose of regular insulin may frequently be omitted. Many patients appear to lose control of their diabetes for several days when they are changing from regular to protamine zinc insulin. This depends upon the severity of the diabetes and upon the duration of previous regular insulin therapy. For instance, a patient with the severe type of diabetes, who previously had no insulin therapy, can often be controlled more rapidly with protamine zinc insulin, than an individual with a milder type who has taken insulin over a long period of years.

REACTIONS

Hypoglycemic reactions in protamine zinc insulin therapy occur much less frequently than with regular insulin therapy. This is explained first by the fact that absorption of protamine zinc insulin takes place more slowly, causing an extension of its action over a larger caloric intake; and second, that for some reason, unexplained at the present time, patients can have a much lower blood sugar content without a hypoglycemic reaction when taking protamine zinc insulin than when using regular insulin. The sudden reactions occurring without warning which are so common with regular insulin, do not occur with protamine zinc insulin. As might be expected, reactions from protamine zinc insulin differ from those of regular insulin. Any deviation from the normal acting, thinking, and talking patient, or muscular incoordination, vertigo, fatigue, or headaches, should suggest a beginning reaction. Hyperhidrosis has been observed much less frequently in protamine zinc insulin reactions. If these early signs are ignored the result may be a gradual development of a severe reaction with unconsciousness. These reactions are not without danger. Frequent examination of the patient should be made because an increase of carbohydrate tolerance may develop after a time in the patient receiving this new therapy, just as it may develop in the patient receiving regular insulin. If the protamine zinc insulin in such patients is not lowered, a reaction occurs. In one of the patients here reported, apparent recovery from hypoglycemic shock took place, only to be followed by a relapse requiring intravenous glucose for relief.

Unfortunately blood sugar determinations were not obtained at the time. The treatment of protamine zinc insulin reactions differs from that of regular insulin reactions in that carbohydrate must be administered for a longer period, because protamine zinc insulin is more slowly absorbed. Therefore, one should give quickly absorbed glucose, such as orange juice, immediately, and follow soon after with more slowly absorbed carbohydrates, such as bread, crackers and milk, or repeat the feedings of rapidly absorbed carbohydrates over a period of time. Intravenous glucose has been necessary only when the above mentioned warning symptoms have not received proper consideration.

CONTRAINDICATIONS

At times the great importance of rapid control of blood sugar levels outweighs all other considerations. Certain instances of pre- and postoperative therapy in patients with a severe type of diabetes, and the acidosis of precoma and coma states, represent such situations. For these conditions I definitely prefer the regular swift acting insulin to protamine zinc insulin. This view differs from that taken by some other clinicians who employ protamine zinc insulin in diabetic coma.

SUMMARY OF CASES

From a consideration of forty patients treated with protamine zinc insulin, certain features of considerable interest and observations of importance can be drawn. Of this group 25 per cent were eighteen years of age or less, the youngest being seven and the oldest eighty-three years of age. The group was equally divided between the sexes. The duration of insulin therapy averaged 5.2 years. All had complications, or their diabetic state complicated some other condition, except five who were children. Arteriosclerosis with manifest symptoms accounted for 25 per cent of the complications; coronary accidents, 7.5 per cent; gangrene, 2.5 per cent; coma, 5.0 per cent; the fatty liver of diabetes receding to normal after treatment, 5.0 per cent; and diabetic neuritis, 5.0 per cent. Twenty patients, or 50 per cent, suffered diseases complicated by diabetes, among which were 7.5 per cent with toxic goiter and 7.5 per cent with pulmonary tuberculosis. Nine patients had one or more reactions. Three were severe and glucose was administered intravenously after the patients had become unconscious. Thirty-five of the forty patients were well controlled with protamine zinc insulin. The previously mentioned difficulty with three patients can be attributed to lack of experience early in the use of the new insulin. Two patients discontinued treatment. The success of this group in

the home management is attributable to two factors; first, the average high intelligence of private patients; and second, the thorough course of instruction given these patients before they left the hospital. Various alterations in the amounts of carbohydrate and fat were employed. The middle road between the high and low carbohydrate diet proved most satisfactory.

These forty patients while on regular insulin received the following number of injections during the twenty-four hour period:

One injection	1 patient
Two injections	15 patients
Three injections	17 patients
Four injections	7 patients

The injections, of course, were given at intervals throughout the day. When this same group became controlled with protamine zinc insulin, nine received one injection, twenty-six received two injections (one of protamine zinc insulin and one of regular insulin given at the same time), and five received one injection in the morning and one at night. The total group of forty patients received thirty-nine fewer injections during the twenty-four hour period, with protamine zinc insulin therapy, as compared with regular insulin therapy. The twenty-six patients who received two injections were given both injections in the morning before breakfast and were then through for the rest of the day. These twenty-six patients had previously required regular insulin at two or more intervals during the day. It is my belief that the majority of patients can be regulated as this group of twenty-six has been, since the remaining fourteen were treated early in my experience with protamine zinc insulin. The length of time necessary to control patients with protamine zinc insulin varies according to many factors, such as insulin sensitivity, complications, endocrine disorders, and the diseases complicating the diabetes. The longer the average patient has had diabetes, the longer time will be required to control the patient with protamine zinc insulin. Twelve patients having diabetes for one year or less required an average of 5.5 days; eight patients having diabetes for one to five years required an average of 8.8 days; seventeen patients having diabetes over five years required 12.6 days; and the remaining three patients are still in the hospital. All but one patient of this group were hospitalized for management and control. Many of these patients required longer hospitalization than the above figures indicate because of complications.

DISCUSSION

The patient suffering from diabetes of the severe type with complications will tax the ingenuity of both physician and dietitian before control is attained. The importance of ferreting out hidden infection cannot be over-emphasized, since a low grade prostatitis, cystitis, pyelonephritis, or other infection, may materially increase the necessary insulin dosage. Tuberculosis seems to be the notable exception to this rule. We now encounter diabetes associated with tuberculosis more frequently. These patients improve only as their tuberculous condition improves. Joslin concurs in the view that arteriosclerosis, conceded as public enemy number one to the diabetic patient, is due to and enhanced by altered fat metabolism. Whether or not improvement in this metabolism brought about by protamine zinc insulin will reduce the incidence and severity of arteriosclerosis in the future, time will answer. Needless to say, protamine zinc insulin must be employed correctly to attain this objective.

Much has been written about the so-called cumulative action of protamine zinc insulin. Cumulative action is defined by Dorland as, "Increasing suddenly in intensity of action after slow additions". Protamine zinc insulin does not fall into this group of drugs. Blood sugar estimations and urinary examinations indicate a period of delayed action lasting two or four days or longer, before its maximum hypoglycemic effect is exerted. If protamine zinc insulin is withheld, its effect continues for several days. It therefore seems that in the main the protamine zinc insulin used in the human economy for one day is that injected two to four days previously. Therefore delayed and sustained better describe the action of protamine zinc insulin than cumulative. The majority of diabetic patients are best controlled by protamine zinc insulin either alone or in combination with regular insulin. Isolated cases may be satisfactorily treated with regular insulin alone. At the present time I prefer hospitalization for establishing the management of all individuals with diabetes. One can thereby be certain that his patient is adequately controlled. The patients are grouped together and receive detailed instruction in a course of lectures given by the dietitian and myself. When the patients are grouped for these talks, each one feels less sorry for himself. They see patients with complications, such as amputations, and become further impressed with the necessity of learning about diabetes and following instructions. I have observed no neurotic tendency resulting from this course of instruction, and feel

that my duty as a physician would be only half done without it.

CONCLUSIONS

1. The use of protamine zinc insulin in the management of forty diabetic patients is herewith reported.

2. Protamine zinc insulin therapy demands the same careful diabetic management that regular insulin therapy requires.

3. The employment of protamine zinc insulin reduces the number of injections and the unit dosage.

4. The injections, as a rule, can be confined to one time of day, thereby decreasing the diabetic patient's inconvenience.

5. Certain changes in dietary allocations become advantageous in protamine zinc insulin therapy.

1434 Des Moines Building

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COCCYODYNIA: A STUDY OF END RESULTS OF TREATMENT*

WILLIAM R. HAMSA, M.D., Iowa City

Pain in the lowermost portion, tip, or tailbone of the spine is a complaint dating back to early medical history. In his clinical description, Simpson¹ in 1859, mentions early reports of injury to the coccyx by Smetius in the sixteenth century and by Van Merren and Gahrlied in the seventeenth century. Little can be added to Simpson's description, at this date. Therapy consisted of tenotomy of the ligamentous structures.

Unknown to Simpson, Nott² in 1844 had reported the case history of a patient suffering with neuralgic pains due to a destructive lesion in the coccyx, treated by surgical removal. Since then, coccygectomy has been frequently performed for

pain in this region. This procedure, stressed by Scanzoni in 1861 and producing a wave of enthusiasm, rapidly fell into disrepute, being characterized by Beach³ in 1899 as "an operation notably unsuccessful." Despite the several shifts subsequently from surgical to conservative treatment of coccygodynia, no definite data are available as to the relative merits of either type of therapy. These shifts, however, have served to develop more varied methods of conservative therapy, such as alcohol injection, manipulation, production of hyperemia by diathermy and rectal irrigation, and dietary measures.

The presumed pathology present in the coccyx and sacrococcygeal junction is the basis for the classification of this disability. Trauma plays a major rôle in the production of this pathology. Thus transmission of force against the coccyx in its long axis is likely to produce a fracture with malposition and visible changes of the roentgenogram. Anteriorly and posteriorly directed forces, such as blows in the region of the coccyx or childbirth trauma respectively,⁴ may produce luxation without fracture. Repeated mild traumata produce no changes visible on the roentgenogram or palpable on physical examination, but do produce a degenerative or traumatic arthritis with manifestations as in any other joint similarly involved. Ankylosis may occur, producing derangement of labor if it occurs in the flexed position. Tumors and destructive lesions are rare. These groups include the vast majority of cases, but in many no definite etiology or mechanogenesis can be determined, the onset being insidious. This group may be classified as idiopathic coccygodynia. Lastly the association of coccygodynia with generalized arthritic processes must be mentioned.

Of a series of 120 patients with coccygodynia seen on the orthopedic service at the State University of Iowa during the last twelve years, 73 have details adequate to determine an end result. This resumé deals with the latter group, 49 being treated by coccygectomy, and 24 receiving conservative treatment in the form of physiotherapy, back support, dietary measures, or no treatment whatever.

The diagnosis of coccygodynia follows after a careful history, physical examination and roentgenography. The frequent complaint of pain in the low back produces such a variety of combinations that a pure coccygodynia may be considered a rarity. Sacrolumbar, sacro-iliac, sciatic, lumbar, or muscular pathology must be ascertained and evaluated. Rectal examination reveals the position, the degree of mobility, the length, and the tenderness, if any, of the coccyx. Passive motion of the coccyx should reproduce the pain in the

* From the Department of Orthopedic Surgery, University of Iowa.

TABLE 1

SURGICAL THERAPY IN FORTY-NINE CASES OF COCCYGDYNIA

	Number	Sex		Average age—years	Direct trauma	Childbirth trauma	Pain		Aggravation			Radiation			Physical Exam.		Rectal Examination			Results of Operations			Average observation—months
		Female	Male				Tip of spine	Low back	Arising from chair	Defecation	Sitting	Posterior thighs	Legs	Hips	Low back pain	Lumbar Arthritis	Change of position	Movable	Pain	Good. (relief complete)	Fair. (Improved)	Poor. (No change)	
Anterior Luxation	6	5	1	28.6	6	1	6	2	3	1	3	0	0	1	2	1	Flexed 6	4	6	5 or 83%	1 or 17%	0	8.8
Posterior Luxation	4	3	1	38.3	4	0	4	1	2	1	2	2	0	0	2	1	Ext. 3	2	3	3 or 75%	0	1 or 25%	9.6
Fracture	4	4		28	4	0	4	1	1	0	1	0	0	2	2	0	2	4	2	3 or 75%	1 or 25%	0	11.6
Traumatic Arthritis	31	29	2	33.6	20	7	21	7	14	9	13	3	2	0	13	10	0	26	29	16 or 52%	10 or 32%	5 or 16%	18.7
Hypertrophic Arthritis	4	4		48	3	1	1	4	3	2	4	3	3	1	4	4	0	3	4	0	1 or 25%	3 or 75%	13.4

TABLE II

CONSERVATIVE THERAPY IN TWENTY-FOUR CASES OF COCCYGDYNIA

	Number	Sex		Average age—years	Direct trauma	Childbirth trauma	Pain		Aggravation			Radiation posterior thigh	Physical Exam.		Rectal Examination			Treatment		Result of Treatment			Average observation—years
		Female	Male				Tip of spine	Low back	Arising from chair	Defecation	Sitting		Low back strain	Lumbar Arthritis	Change of position	Movable	Pain	Physiotherapy back support	None	Good. (Relief complete)	Fair. (Improved)	Poor. (No change)	
Anterior Luxation	2	2		36.5	2	0	2	2	1	0	2	0	2	0	Flexed 2	0	2	2		0	2 or 100%	0	3.5
Posterior Luxation	1	1		18	1	0	1	0	1	1	1	0	0	0	Ext. 1	1	1	1		0	1 or 100%	0	5.0
Fracture	3	3		43	3	1	3	1	3	1	3	0	1	0	0	3	3	2	1	3 or 100%	0	0	4.3
Traumatic Arthritis	8	8		36	8	4	8	1	6	6	7	1	3	1	0	8	8	5	3	2 or 25%	3 or 38%	3 or 38%	3.0
Hypertrophic Arthritis	3	3		52	2	0	3	3	1	1	3	0	3	3	0	3	3	2	1	0	3 or 100%	0	2.3
Atrophic Arthritis	1	1		30	1	0	1	1	1	0	1	1	1	1	0	1	1	1		0	0	1 or 100%	3.0
Idiopathic Coccygodynia	6	6		30	3	4	6	3	4	2	5	1	4	0	0	6	6	4	2	0	4 or 66%	2 or 33%	4.2

complaint. In the event of combined low back pain and coccygodynia, the former is vigorously treated with symptomatic therapy and correction of static stresses before any attack is planned on the coccygeal pathology. In a great proportion of cases the coccygeal pain improves with the low back symptoms. Should coccygeal pain persist, a more radical attack is in order, the patient being informed that this will in no way affect any symptoms in the low back region with which he usually associates his coccygodynia. Removal may be done through a longitudinal or through a transverse incision at the level of the sacrococcygeal junction, the latter being preferred because it is more removed from the anal opening and hence less likely to become secondarily infected. The

coccyx is disarticulated from the sacrum, and removed, preferably with the periosteum, toward and including the tip. A purse-string suture through ligamentous structures obliterates the potential space and restores muscular relationships, care being taken to avoid puncturing the rectal wall. Following skin closure, a collodion dressing, or adhesive strapping, block off the operative field from possible contamination. After four to six days of non-residue diet, bowel movements are encouraged. Bed rest is preferred for eight to ten days, at which time sutures are removed.

For a discussion of the anatomy, clinical symptoms, and signs, the reader is referred to any standard textbook. The foregoing two tables illustrate the salient features of the previously mentioned 73 cases, Table I consisting of surgical therapy; Table II consisting of conservative therapy.

CONCLUSIONS

The preponderance of the female sex, almost 95 per cent, is attributed to the relatively higher position and closer approximation of the coccyx to the ischia in the male, thereby exposing this portion to little trauma. The history of at least one major direct trauma is obtained in a large proportion, 77 per cent, of this series. Childbirth trauma plays a minor rôle. In all groups under any or no treatment, the number of good and fair results increased with the passing of time, illustrating the tendency of Nature to heal and adapt. Surgical removal in the group of thirty-one traumatic arthritis cases produced better end results (84 per cent good and fair) than expectant therapy (62 per cent good and fair) in eight similar cases. In the hypertrophic and atrophic arthritis groups, conservative treatment offers better end results than does coccygectomy. This is especially illustrated by the one poor result in surgical treatment of a posterior luxation, in which generalized arthritis was very pronounced. In the remainder of the cases, coccygectomy produces the same number of good and fair end results as does conservative treatment. Coccygectomy, however, does decrease the length of time necessary to establish this favorable end result, thereby establishing itself as an economic factor in the treatment of coccygodynia.

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PARENTERAL OXYGEN ADMINISTRATION*

THEODORE STUCKART, M.D., Dubuque

For a number of years oxygen has been used in pneumonia by inhaling through a mask. The results do not seem to have justified the expenditure of labor and cash if the discontinuance of administration in this way is any criterion. However, the administration of oxygen by the gas machine immediately upon completing an anesthetic is still good therapy as is evidenced by the improved condition of the patient when he receives this postoperative dose. Next in order was the use of oxygen tents. This type of oxygen therapy has unquestionably saved many lives. The next development was the administration of oxygen by the subcutaneous route. When it is injected subcutaneously it seems to have a different effect than when it is inhaled, or at least it has a more prompt and more certain effect. The lungs do not seem to be able to extract it from the air in certain conditions. In England and France it has been used for over ten years. LeBlanc of Chicago says that Alexandresen-Dersca and Volter of France injected it intravenously with impunity.

The first thought is, will it cause an embolism and possibly an infection at the site of injection? The danger of infection at the site of injection can be dismissed with a few words. Oxygen in itself is a good disinfectant, and if the conveyor of the gas carries any pathogenic organisms they would soon be killed. From the experience in one case in which eight or nine injections were given in each thigh, we can say that not even a spot of redness developed at the site of any puncture, but they all healed in a day or two. The question of embolism cannot be dismissed so easily. However, in subcutaneous injections we can forget it. Let us not forget that in some of the following cases air, not pure oxygen, was used. Luokett, in 1913, found an embolism in the cerebral ventricles on postmortem examination. This entered the ventricles through a fractured skull. Von Adeling found an embolism of the circulation following pneumothorax. Mathe reported fatal embolism due to inflation of the bladder with air. Ewald and Kobert concluded from experiments that air may traverse from the lung into the blood. Kleinberg saw some very unpleasant symptoms after injecting air into a knee joint. Wolfe and Robertson of Philadelphia performed a number of experiments on dogs and rabbits as follows:

Experiment A. A daily injection of 0.5 cubic centimeters of air was administered intravenously to rabbits weighing approximately two and one-

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half kilograms, for five days without any untoward effects. The dose was gradually increased. When two cubic centimeters were administered at one time, the rabbits developed convulsions and died within three minutes. As long as less than two cubic centimeters were administered, and sufficient time was allowed between injections, the rabbits recovered.

Experiment B. Five cubic centimeters of air were given to a dog weighing fifteen kilograms, as rapidly as one could inject it into the femoral vein without any untoward results. The dose was doubled every day until fifty cubic centimeters were reached, and still there were no ill effects. When the amount was increased to seventy-five cubic centimeters the animal became dyspneic and listless, and the mucous membrane showed a cyanotic hue; but in five minutes the dog made a complete recovery. The same dose was again administered daily for a week. Similar experiments were carried out in other animals. When the dose was doubled to one hundred and fifty cubic centimeters the animals became extremely ill, markedly cyanotic and dyspneic with a pronounced pulling of the intercostal mucous membranes, but after fifteen minutes they recovered. It was only after the amount was increased to 250 cubic centimeters that the animals died. These experiments were repeated with similar results.

Experiment C. In an average sized dog, they cut the veins of the neck, laid them open and by pressing and relaxing the thorax (the method used in artificial respiration) were unable to introduce air into the circulation. A small amount of air could be felt passing along the vein for about a quarter of an inch if a funnel attached to a cannula was raised about two feet above the neck of the animal. There were no untoward effects and upon removal of the cannula, blood again appeared at the proximal end of the vein. In other words, they did not succeed in introducing air against the flow of the blood.

Experiment D. An overdose of morphine and chloretone was given to some animals after small amounts of air had been injected (one cubic centimeter to rabbits and twenty cubic centimeters to dogs). The large vessels were ligated wherever possible and the organs then sectioned under water. The only place where air was consistently found was in the pulmonary artery and its branches. In those animals where the amount of air given was above the lethal dose, the air was found in the right ventricle, the coronary veins, right auricle, and even in the inferior and the superior vena cava, if the amount injected was large enough. At no time, however, did they find air on the left side of the heart or in any other organ.

The following conclusions have been drawn from these experiments:

1. The amount of air given intravenously which will cause death varies with the size of the pulmonary artery, and hence with the size of the animal; in the rabbit this amount is 0.5 cubic centimeters per kilogram, in the dog it is fifteen cubic centimeters per kilogram.

2. The air is found in the pulmonary artery and its branches, but if there is more air than these structures can hold it goes into the right auricle and ventricle and into the inferior and the superior vena cava.

3. Air does not go against the blood stream, in spite of the law of gravity.

4. The air forms a tampon, which blocks the pulmonary circulation.

5. The speed of injection makes no difference as long as the air cannot be absorbed as quickly as it is being injected.

6. Large volumes of air cause shock, dyspnea, cyanosis, slow pulse, convulsions and death.

7. In cases where large volumes of air have been accidentally injected into the right ventricle, it should be aspirated.

LeBlanc says that he has seen striking results in pneumonia and heart failure immediately upon intravenous and subcutaneous injections. Quoting LeBlanc again, "The intracardiac method I have used three times in moribund cases, and although having no hopes of saving such cases I have noticed decided stimulation and improved rhythm for the next hour following the administration of 250 cubic centimeters given at the rate of eight cubic centimeters per minute into the heart itself."

Kopecy used oxygen subcutaneously in a case of postoperative pneumonia, apparently in extremis, with excellent results. Harris of Gary, Indiana, used it on a woman seventy-six years of age, ill of pneumonia. She was given 500 to 1,000 cubic centimeters at intervals of several hours and later only once a day for four days. Before the second injection she was feeling fine. There was normal resolution and the patient was well within a short time. A man thirty years of age had lobar pneumonia, which was confirmed by x-ray. He was cyanotic and had severe pain in the chest; his temperature was 104 degrees, pulse 140, and respirations 30. He was given 600 cubic centimeters of oxygen at intervals of several hours, and experienced immediate relief. After three days the patient's temperature, pulse and respirations were normal, and within a week he was well enough to leave the hospital.

A child, ten years of age, had a temperature of 103.6 degrees, pulse 134, and respirations 22. A

tonsillectomy had been performed two weeks before she was admitted to the hospital. This had been followed by a severe streptococcic throat infection. Two days before she came to the hospital she complained of severe abdominal pains, and the day she was admitted the pain localized in the right iliac fossa. The right side was bulging and rigid. A ruptured gangrenous appendix was removed with a pint of odorless pus. During the night the temperature rose to 106 degrees, the pulse to 146 at the wrist and 180 with the stethoscope, and the respirations dropped to 20. The child was delirious and picking the bed clothes and trying to get out of bed. She was given 600 cubic centimeters of oxygen in one thigh and 300 cubic centimeters in the other thigh. The child soon became rational, went into a normal sleep, and made a slow recovery after more of the oxygen injections every eight hours.

De Keyser used it on boils and carbuncles. Ewart, Derose and Hewitt of Ontario used it with success. Hewitt cites four cases of pneumonia in which it was a perfect success. A patient ready for operation suddenly stopped breathing on the operating table. Oxygen was injected, and the patient recovered sufficiently so that he was operated upon successfully. Oxygen therapy has also been successful in the treatment of severe burns and shock.

According to McCrae, senior assisting physician at the Royal Victoria Hospital in Montreal, the following states are indications for the injection of oxygen:

1. Accidents from anesthesia.
2. Edema of the lungs, edema of the glottis, and accidental interference with respiration by diseases of the upper respiratory tract.
3. Marked dyspnea with defective oxygenation, as in cardiac and renal disease.
4. Asphyxia of infants at birth.
5. Syncope.
6. Electrocutation.

In short we might say that oxygen therapy is indicated in the majority of acute infections, shock and anoxemia from any cause. Obviously the patient is sure to obtain benefit from all the oxygen given. In the last analysis the ultramicroscopic examination of the protein particles in colloid suspension in the blood plasma should show a definite state or picture which is an indication for oxygen injection, although this phase will not be discussed here.

We should like to report briefly the following cases taken from our own files. The first patient, an infant, was admitted to the hospital on June 12, with a diagnosis of bronchopneumonia, confirmed

by x-ray. On the following day, the temperature rose to 104.5 degrees, and the patient was placed in the oxygen tent. On June 15 the temperature was still 104.5 degrees, and the baby had developed Cheyne-Stokes respirations, and was very cyanotic. At 11:00 A. M. he was given all the oxygen subcutaneously that the skin over the thigh would hold. Injections were continued at intervals of every three to four hours. At 5:00 A. M., June 16, the baby was extremely cyanotic; he seemed moribund and could not be roused. Immediately he was again given all the oxygen the thigh could hold. We had omitted the oxygen injections during the previous night because we feared to disturb the patient's rest. At 5:30 A. M. the baby roused, with his color much improved. Thereafter the oxygen was given every two to two and one-half hours, day and night, until the baby was well on the road to recovery.

The next patient was a male, thirty-five years of age. A diagnosis was made of chronic sinusitis, asthma, hypertrophy of the right side of the heart, acute nephritis with edema, and bronchopneumonia. The diagnosis of pneumonia was confirmed by x-ray. The ordinary medication was used including the oxygen tent. The patient was very cyanotic throughout his illness and was apparently in extremis February 11, 1937, 5:00 a. m. He was pulseless and cold to his elbows and knees, with the "death rattle" in his throat. Thirty cubic centimeters of intravenous glucose were given and all the subcutaneous oxygen the thigh would hold. After this was absorbed a continuous small stream was administered. At 9:00 a. m. the same day the patient asked for breakfast. He did not pass more than 300 cubic centimeters of urine per day and finally absorbed no more subcutaneous oxygen and expired on February 15, 1937. The allergic condition of the patient's blood was undoubtedly responsible for his inability to assimilate oxygen to better advantage.

The last patient, a male eighty-two years of age, senile for two years, was seen at home February 23, 1937. A diagnosis was made of bronchopneumonia with senility, general arteriosclerosis, and chronic myocarditis. He also had the "death rattle" in his throat, was very cyanotic and showed the general signs of approaching death. He was given the ordinary medication but his condition continued the same. All the oxygen which could conveniently be given in the thigh was injected. The cyanosis changed to a pink, his breathing was much easier, and the rattle disappeared. The family subsequently objected to medication by needle and it was discontinued. He expired on February 28, 1937.

Although subcutaneous oxygen only prolonged

the life of some of these patients a few days and eased their respiration considerably, one can readily see that it has the chance of being really valuable if it can tide over a case of ordinary pneumonia during the period immediately following the crisis and hence prolong such a life, not days but many years.

DIAGNOSTIC MISTAKES

R. L. GORRELL, M.D., Clarion

Mistakes in diagnosis may occur in any one of the following twelve conditions:

1. The "snap-diagnosis", and its illegitimate cousins, the telephone diagnosis and "after-hours" diagnosis.
2. The sin of treating symptoms.
3. The pathognomonic delusion.
4. Making a "common" diagnosis.
5. Failing to analyze all data in perspective, to reject incongruous findings, especially laboratory.
6. Failing to make a complete examination, or to use doubtful methods or improper interpretation of findings.
7. "Sticking" to a diagnosis.
8. Failing to watch newer developments in medicine and surgery, which would permit more rational diagnoses and treatment.
9. The short or direct history (including such errors as leading questions, interpretation while taking history, and taking patient's word for symptoms or diseases).
10. Failing to consider mental aspects of disease, or mental disease simulating organic conditions.
11. Making a single diagnosis.
12. Cases lacking characteristic signs and symptoms in which it is difficult or impossible to make a correct diagnosis.

Literature on mistaken diagnoses from 1895 to 1936 was consulted in the preparation of this paper. The original stimulus came from a belief on the part of the author that mistaken diagnoses are far more common than is generally believed. Everyone makes mistakes. It is impossible to do otherwise in such a field as medicine, where we cannot see "the wheels go round" and yet are expected to tell which wheel is not working and why. In reading the articles, it was noted that some of the most famed diagnosticians freely admitted errors in diagnosis, but that very few well-known surgeons were found in this group. "Knowledge is proud that he has learned so much; wisdom is humble that he knows no more" (Cowper). Experience is a valuable

teacher, only if constantly criticized. There was never a more lying phrase than, "practice makes perfect". As Lundy says, "The fact that you have given a thousand anesthetics does not prove that you are a good anesthetist".

"For one mistake made by not knowing, ten mistakes are made for not looking". According to Byfield,¹ one thousand patients with pulmonary tuberculosis consulted 1,940 physicians, of whom 55 per cent made physical examination only and 151 did not even have the patient strip; thirteen took the temperature reading, fourteen obtained sputum specimens; 197 (ten per cent) made no examination; and only 7 per cent used all means of obtaining a diagnosis. In this connection, it may be pertinent to evaluate the belief that tuberculosis of the lung can be excluded by physical examination. Routine chest x-rays of applicants for employment at a University Clinic, revealed substantial percentages with minimal tuberculosis, despite thorough physical examinations; and all of our office patients cannot receive a thorough physical examination! Probably the only answer today, in view of the high costs of x-rays, is to do Mantoux skin tests on all suspects and x-ray the positive reactors. It must never be forgotten that saving the patient a few dollars will be poor economy if moderately advanced tuberculosis is detected later, with resultant long invalidism or death.

Clendening² believes that many of the diagnostic criteria still being written and taught are useless. "One cannot accurately outline the size of the heart and aorta by percussion...there will be an error in 75 per cent. There is only a ten per cent error in determining the size of the heart by locating the apex beat, inspection or palpation." Richard Cabot made much the same observation many years ago, and advised fluoroscopy. As far as teaching in medical schools is concerned, these men are prophets crying out in the wilderness. As against the multiplicity of signs and symptoms usually given in connection with pulmonary tuberculosis, Clendening lists Dr. Lawrence Brown's five points: history of hemoptysis; history of pleural effusion, tubercle bacilli in sputum; râles on auscultation; and spots of tubercle on the x-ray film. One of the fortunate results of specialization is the similar removal of excess baggage, in every field of medicine. To one who spends much of his time in seeing a specialized group of cases, it soon becomes apparent that some of our medical heritages are as dead as the names attached to them.

Baetz³ reports an interesting case. A negro who had been receiving a series of quinine injections for malaria, complained of feeling weak and

feverish. Death occurred on the sixth day. Autopsy revealed gas bacillus infection at the site of injections. The next time a "hypersensitive" patient complains of persistent pain after an injection, look at the area. Bruce-Porter⁴ stresses the importance of systematic examination; that is, in edema of the feet, observation should begin at the feet and ascend. Two cases were found to be due to an impacted fibroid, and a truss with a strong spring pressing over the femoral vein. Incision of buboes with resultant scar formation, was followed by edema.

It is an ancient axiom that no opinion should be given on an abdominal mass, until the patient has been catheterized. Five years ago, the author witnessed a laparotomy for a median, suprapubic mass occurring rather suddenly in a manic-depressive individual, thirty-five years of age. She had not been catheterized, and the exploration revealed only a distended bladder. A mass, especially a soft mass in the abdomen may disappear after thorough enemas. Elsewhere one of us has reported a laparotomy on a girl thirteen years of age, with a rounded pelvic mass, lower abdominal pain and tenderness. Suprapubic incision exposed a long vagina, distended with menstrual blood. Instead of the relatively common imperforate hymen (which was looked for), a vaginal septum was the cause of blockage, and regurgitated blood into the peritoneal cavity was the cause of pain and tenderness. A history of acute appendicitis also helped to confuse the issue.

Solmer⁵ mentions a case of bladder obstruction referred for removal of the prostate gland. Examination showed the obstruction to be due to a stricture at the meatus. Drummond⁶ believes that physical examinations are uninformative because many of us do not know thoroughly the clinical anatomy and physiology that we should. A surgeon about to remove several calculi from an enlarged submaxillary gland, was surprised to hear that there was no salivary gland in the cheek. He was even more surprised when an incision made over the apparent location of the stones along the upper edge of the mandible, failed to reveal the stones and necessitated dissection to reach them. Abrahams⁷ also thinks that diagnoses should be made on an anatomic basis. He says, "Bilateral parotid tumors are frequently diagnosed, but usually do not have the anatomic location of the gland. . . . usually turn out to be lipomata. (Exact knowledge of anatomy would prevent mistaking the cervical adenitis for mumps). If dysphagia is complained of, start at the teeth and carefully examine down the route of deglutition. . . the difficult swallowing may be due to an inflamed node beneath the sternomastoid muscle".

Lower back and abdominal pains in middleaged men would be diagnosed etiologically if a rectal examination was made in each case. Tenderness in a somewhat enlarged prostate gland may be relieved by prostatic massage, and more important, by sexual hygiene. During middle age, business cares, fatigue and loss of interest in one's partner result in infrequent coitus with consequent prostatic congestion and seminal vesicle distension. The latter may be aggravated by association with pretty office girls. A psychiatrist has had much success by advising the reading of erotic books and a renewal of the careful dressing, gifts, perfume, etc., that preceded marriage, possibly relief from business cares by a vacation trip, so that desire, enjoyment and physiologic relief follow in sequence.

Clendening warns us not to turn the physical examination over to an assistant, as the art of examining is only kept by practice. He tartly observes that Paderewski does not have an assistant to do his practicing.

Bennett⁸ mentions a method of abdominal inspection which I have not read of hitherto. In examining a young woman with right-sided abdominal enlargement, supposedly the result of cecal and ascending colon distension, he looked at the abdomen end-on, that is, from the foot of the bed. On palpation, the abdominal muscles on the left side were found to be tight and the swelling was a "phantom" tumor due to the presence of the intestines on the right side.

Hill⁹ states, "Do not neglect the mechanical factor. If complaint is made of the feet, look for flat feet, short tendon, weak feet, infection from urethra and tonsils, and gout". Recent case reports from The Mayo Clinic indicate that gout is frequently not diagnosed because it appears elsewhere than in the typical great toe, the ankle being next susceptible. Such a diagnosis is important from the standpoint of treatment, because that occasionally dangerous drug, cinchophen, frequently gives great relief in gout and its use in such cases is usually justifiable.

Karsner,¹⁰ in reviewing a series of autopsies, found that one of the most frequent errors in diagnosis was to call bronchopneumonia, lobar pneumonia. Since the majority of cases of pneumonia are of the bronchial type, the burden of proof is on the physician who makes a diagnosis of lobar pneumonia. This again, has practical importance in treatment, especially if serum treatment is to be given.

A typical, firm-based ulcer on the nipple, with enlargement of the neighboring nodes, should make one think of mammary chancre (after exclusion of carcinoma), states Max Thorek¹¹. His

remarks about finding the lead line (blue line of dots on gums) brings up the story of the emergency laparotomy for appendicitis. The operator only noticed the line after the operation, when he was called on to support the jaw.

It has become our custom to depend on gastrointestinal fluoroscopy and plates for the diagnosis of peptic ulcer, but it is well to remember that a substantial percentage is missed, even by experts. A greater number are not recognized by the average physician doing his own x-ray work, or by technicians who know less about the normal mucosal pattern and physiology. Alvarez believes that patients with epigastric distress should not be suspected of having ulcers, unless the history is somewhat typical. Epigastric percussion with a reflex hammer may give rise to the localized tenderness of ulcer. Isaac¹² draws a pencil gently over the epigastrium, and finds a definite small area of tenderness in ulcer cases.

Cyanosis, although occurring most frequently in connection with heart disease, demands a careful examination. The following case history is interesting in this respect. The patient, a male, twenty-two years of age, was suffering gasping respirations and cyanosis, following a sharp pain in the left chest. The apex beat was heard just to the right of the sternum; the left side of the chest was tympanitic, and respiratory sounds were heard very faintly. A diagnosis was made of acute pneumothorax. The insertion of a large needle into the left chest released the air, and relieved the dyspnea and cyanosis. This tension pneumothorax was due to a valve-like defect in the left bronchi which permitted air to pass into the pleural cavity with each inspiration, then closed so that it could not escape during expiration. The causative factor in this case was tuberculosis, but stab injury of the lung may produce such a clinical picture. This condition must be sharply differentiated from massive collapse of the lung, which most often occurs during the postoperative period; here the heart moves to the affected, collapsed side.

Michelson and Luskin report two cases of absolutely incorrect diagnoses because of cursory examination. A perineal hernia pushed the posterior vaginal wall forward, so that a diagnosis of vaginal polyp was made. Excision was followed by death. Another perineal hernia pushed posteriorly into the rectum and down through the anal sphincter, to the outside, so that a rectal prolapse was diagnosed. Amputation resulted in injury to the small bowel and peritonitis.

Inversion of the testicle with the epididymis placed anteriorly, occurs occasionally. Waterhouse¹³ mentions the case of a newly graduated practitioner who tapped the Squire's hydrocele an-

teriorly three times, each needling being followed by great pain and bleeding. If the young physician had remembered this anomaly (or looked it up before proceeding on an obviously incorrect course), and introduced the needle laterally, his start in practice would have been more auspicious.

Myles¹⁴ recalls two aneurysms that had been opened under the supposition that they were inflammatory masses, after injury had made them reddened and tender. Because of the dramatic, often fatal, denouement following such errors, medical history gives a prominent place to surgeons of the past who committed such errors of commission.

As patients are trained to come in earlier and earlier in the course of disease, it becomes correspondingly difficult to make an exact diagnosis of small tumors. The biopsy is a legitimate extension of the examination. MacCarty¹⁵ in reviewing Mayo Clinic surgical cases states that gross diagnosis of removed specimens was not possible in 16.8 per cent, or in one case out of five or six. The following is a personal case that demonstrates the value of biopsy. The patient was a farmer, forty-six years of age, whose health had always been good. For several months he had noticed the slow enlargement of a lump over the left clavicle, although no pain had accompanied the growth. The tumor was firm, somewhat flattened, fixed beneath the clavicle, of walnut size. Physical examination was negative, and no other masses or nodes were felt. The mass was removed under a local anesthetic. The pathologist diagnosed Hodgkin's disease. Fluoroscopy of the chest revealed a mediastinal enlargement of irregular shape, apparently due to enlarged hilar nodes. Deep x-ray therapy was at once instituted, and as a result, the patient has been able to continue at his work, without noticeable discomfort.

A vaginal examination does not rule out such apparently obvious pathology as uterine fibroids, or ovarian cyst and carcinoma. Lynch reports that "less than 90 per cent of 300 fibroids, in only 64 per cent of 302 true ovarian neoplasms, were absolutely correctly diagnosed"; that is, ovarian tumors were either confused with fibroids (or vice versa), or not diagnosed at all. Gregory and Vosburgh,¹⁶ in reviewing cases at the New York Hospital, found that ovarian cysts were diagnosed in eight cases where they were not found, and found in twenty-two cases where they were not diagnosed. On this University surgical service (thirteen hundred majors), three pregnancies, two ectopic pregnancies (one with adhesions), salpingitis, acute appendicitis, tuberculous salpingitis, retroperitoneal cyst and fibromyoma, were preoperatively diagnosed as ovarian cysts. The

diagnosis of ovarian cyst was missed in these twenty-two instances; the preoperative diagnosis being appendicitis in nine cases, salpingitis in five, ectopic pregnancy in two, fibromyoma in three, and cholecystitis, gastric ulcer and carcinoma of the uterus in one each. After such a summary, they come to the conclusion that, "When a patient has a palpable mass in the pelvis with symptoms, it is generally a sufficient warrant for operation". Bailey¹⁷ says, "As far as tumors are concerned, the abdomen is indeed a temple of surprise, and it is by our diagnostic humiliations when the abdomen is opened that we learn".

Brams¹⁸ discusses failure of physical therapy due to errors in diagnosis, which could have been avoided by thorough examination; and gives the following three examples:

1. A postoperative chronic draining sinus of the abdomen, treated with ultraviolet light for one month, until someone thought to introduce a hemostat and withdraw a piece of silk-worm gut.
2. Chronic nasal discharges, due to retained cotton plug inserted at time of nasal operation; to tooth root fragment in the sinus following extraction; or due to pea and collar button in children's noses.
3. "Sprained" or arthritic wrist, actually a fractured carpal scaphoid bone or dislocated semilunar bone.

McNeil¹⁹ reports the following case. The patient, a girl eight years of age, complained of pain in the right hip for four days, after falling from a tricycle four weeks previously; there had been a slight limp for three weeks. For four days, the limp had become worse. The child was feverish and coughing; there was no vomiting, diarrhea or frequency of micturition. She cried on abduction or rotation of leg; the hip joint itself was tender to pressure. The father had died of pulmonary tuberculosis, so that the discovery of moist râles at the right apex, suggested the tentative diagnosis of a tuberculous hip. The same evening, the child felt worse and vomited. Careful abdominal examination revealed rigidity and tenderness over McBurney's point. Removal of a suppurating appendix pointing in the iliac fossa cleared up the symptoms. (Pain on rotation of the thigh is mentioned by Cope²⁰ as of great diagnostic value in pelvic pathology, especially appendicitis and pelvic hematocele; labeled the obturator test, as it puts the obturator muscle on stretch).

A dozen authors, and my own experience, caution against what may be known as "fat man's appendicitis". Due to dietary indiscretions, the individual is often accustomed to abdominal pains and nausea. Because of the fat, flabby abdominal

wall, it is difficult to elicit tenderness and impossible to find rigidity, so that both patient and doctor do not feel sure that it is appendicitis. The diagnostic dilemma is intensified when the appendix is pelvic, and the belly soft and non-tender. A rectal examination frequently establishes the diagnosis. Brunn²¹ has recently summed up the diagnostic points in acute pelvic appendicitis: abdominal pain, beginning in the epigastrium or umbilicus and radiating down, especially to the left; normal temperature; flat, soft abdomen; irritation on urination and urgency, and possibly desire for defecation; constipation or diarrhea; tenderness on rectal or vaginal examinations; and leukocytosis. As far as I know this is the first article in the literature emphasizing the danger of the "negative" abdomen. The following case illustrates this danger.

The patient, a housewife, forty-four years of age, complained of pain transversely across the abdomen at the level of the umbilicus, which had been present for twenty-four hours; the pain was more noticeable on the left side. The abdomen was soft, with possibly very slight tenderness just above the pubes. No vaginal examination was carried out as menstruation had just begun; the rectal examination revealed slight tenderness. As the pain rather rapidly disappeared with bed rest and starvation, surgery was postponed for a few days until the inflammation was less, and a uterine suspension could also be carried out. For forty-eight hours, there was some mild, aching pain in the lower abdomen, which then began to increase. Laparotomy disclosed a ruptured appendix in the pelvis.

Since first the theory of focal infection was propounded by Billings, practically every organ in the body has been accused of being a focus: teeth, tonsils, sinuses, gallbladder, appendix (?), cervix (C. H. Mayo), rectum (anal cryptitis of Hirschmann). Sinus infection as a frequent source of focal infection, has apparently been disproved by recent follow-up examinations of four hundred sinus patients at The Mayo Clinic. Indigestion not infrequently follows infection in the mouth¹⁷. Focal infection should always be looked for, but not as a substitute for thought. There are a few heretics, who believe that focal infection is not a magic wand with which to wave away such diverse evils as hypertension, mental disorders, arthritis, peptic ulcer, cholecystitis, neuritis, myositis, lumbago, neurasthenia and flat foot.

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THE FINLEY HOSPITAL CLINICOPATHOLOGIC CONFERENCES

PAPILLARY CARCINOMA OF THE RENAL PELVIS

L. H. FRITZ, M.D., Dubuque

There are several causes of hematuria, but it is axiomatic that in an adult it is a sign indicating a malignant renal neoplasm until proved otherwise. The following case is of interest because it illustrates this point and also because of the rarity of the tumor which at operation proved to be a papillary growth of the renal pelvis.

CASE REPORT

Chief complaint: The patient, a white man thirty-one years of age, was admitted to the Finley Hospital August 12, 1929, with a complaint of "blood in the urine, pain in the kidney region, and weakness."

Family history: The family history was negative.

Past history: The patient had been well until the present illness.

Present illness: For the previous eight months the patient had felt tired and had had frequent backaches. Two weeks before admission he noticed blood in the urine for the first time and this had gradually increased in frequency and in amount. The day before admission he had voided considerable pure blood. He had lost no weight but felt weak.

Physical examination: The patient's temperature was 99 degrees, the respirations were 20, and the pulse was 80 per minute. The patient was moderately obese, but did not appear acutely ill. The general examination was entirely negative. Locally, each kidney was slightly tender, but no tumor could be made out. On several examinations the urine contained gross hemorrhage.

Cystoscopic examination: The urinary bladder and ureteral orifices were negative. The source of the hemorrhage was the left ureter. Smears and cultures of the urine from each ureter and the bladder showed no organisms.

Provisional diagnosis: A provisional diagnosis of tumor of the left kidney was made.

X-ray examination: Upon x-ray examination the bladder, right ureter, and right kidney were found to be negative. The pyelogram of the left kidney showed a large filling defect in the upper



Fig. 1. Pyelogram showing filling defect of the left renal pelvis.

half of a moderately dilated pelvis, the appearance being typical of a tumor encroaching on the pelvis. (Fig. 1.) X-ray examination of the chest showed no evidence of metastases.

Preoperative diagnosis: The preoperative diagnosis was tumor of the left renal pelvis.

Operative notes: The left kidney was isolated and found to be twice the normal size; it was cystic and boggy. A tumor mass could be felt in the moderately dilated pelvis, and a nephrectomy was done.

Pathologic report. The pathologic report was as follows: "The specimen is a kidney weighing 250 grams with four centimeters of the ureter

attached. Externally it is smooth, but shows numerous dark colored cysts varying between one-half and one centimeter in diameter. On section the pelvis is dilated and several cysts are seen scattered through the kidney. In the upper half of the pelvis there is a papillomatous mass four centimeters in diameter (Fig. 2). A few small implantations are scattered over the adjacent pelvic epithelium. The latter also shows hemorrhages. No extension into the kidney substance is noted,



Fig. 2. Photograph of the museum specimen showing the papillary carcinoma partly filling the pelvis of the left kidney.

but at one area the neoplasm appears to be invading the wall of the renal pelvis. Microscopically the picture of the main tumor is typical of a papilloma. In the area of suspected invasion the histologic picture shows that there is invasion and here the cells are less orderly in their arrangement. The malignant change appears to be recent and possibly is confined to the pelvic wall (Fig. 3).

Subsequent course: The patient made an uneventful recovery and left the hospital in fifteen days. He was readmitted six months later because of a recurrence of the hematuria. Cystoscopic examination showed a large papilloma at

the orifice of the left ureter. This was cauterized and the hematuria ceased. About a year later the patient died in coma. His death was possibly

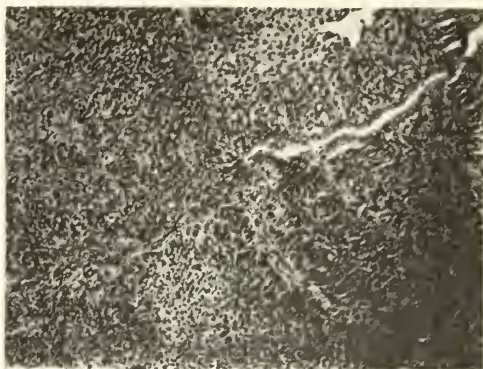


Fig. 3. Microphotograph of the neoplasm.

caused by a metastatic brain tumor, but permission for an autopsy could not be obtained.

DISCUSSION

There is considerable variation in the incidence of tumors of the renal pelvis as reported by different urologists. Meltzer¹ in 1926 found only one case in a series of 94 renal tumors encountered in a ten year period in two large hospitals in Boston. There were only two instances in a series of 98 kidney growths reported by MacKenzie² of Montreal in 1934. It is agreed that with modern diagnostic methods the incidence has been gradually increasing. Thus White and Ritch³ state that Spies collected 78 cases in 1915 and McClellan found "considerably more than 100 cases" in 1924. Meltzer was able to find 181 cases in the literature in 1926 and our review indicates that approximately fifty cases have been added in recent years.

Papillary growths represent about three-fourths of all tumors of the renal pelvis. Fibromas, sarcomas, and solid carcinomas make up the other fourth. While many of the papillary growths are histologically benign, it is recognized by pathologists and surgeons that all are inherently malignant. Indeed, Broders (cited by Kimball and Ferris⁴) classifies the simple papillomas as grade one papillary carcinoma. One of the important characteristics of these tumors is the forming of transplants in the lower segments of the ureter or bladder, or their recurrence after nephrectomy. Thus, Kimball and Ferris in a series of seventy-four cases reported that in fifty, new tumors developed in the ureter or bladder following the observation or treatment of the primary growth in the renal pelvis. In the remaining twenty-four cases multiple growths were found when the

patients first consulted the urologist. Metastases are usually by way of the blood stream and the lungs and brain are favorite sites.

Three-fourths of the papillary tumors of the renal pelvis occur in men and 80 per cent of them are encountered in individuals between thirty and fifty years of age. The disease is almost always unilateral and each kidney is affected with equal frequency. The outstanding symptom is hematuria and is present in 95 per cent of the cases. It occurs comparatively early, may be intermittent and is often massive. Pain in the kidney region is also common and is complained of by one-half the patients. It is usually caused by obstruction of the ureteral orifice with hydro- or pyonephrosis. A tumor may be felt in about ten per cent of the cases and is due to the hydronephrosis. Very rarely there may be a history of voiding a piece of tissue.

The above clinical picture indicates the possibility of a renal tumor, but does not tell whether it is in the renal parenchyma or pelvis. The physical examination must be supplemented with complete urologic studies. Braasch⁵ has described the pyelograms encountered in the different types of renal tumors. He states that the deformity of the renal pelvis caused by the presence of a tumor is characterized by a filling defect, pyelectasis or both. Early the pelvic outline may be moderately deformed by irregular dilatation or abbreviation of one or more calices or by a filling defect of the renal pelvis. As the tumor grows either a part or all of the pelvic lumen may be obliterated. The presence and degree of pyelectasis depend largely upon the site of the tumor and its relations to the ureteropelvic junction. As a rule pyelectasis is far more likely to occur in renal pelvic tumors than in those arising in the parenchyma. At times the hydronephrosis may be so extensive as to obscure any evidence of the primary tumor. In some cases the cystoscopic studies may be as significant as the urographic data. Renal papillomas frequently involve the bladder as single or multiple papillomas. They may be situated in the base of the bladder near the affected ureter or may appear in the ureteral orifice. Their presence in the bladder with hematuria from the affected ureter may ordinarily be considered pathognomonic of a papilloma of the renal pelvis.

The marked tendency of papillomas of the renal pelvis to form implantations in the ureter has convinced surgeons that simple nephrectomy is inadequate treatment of these tumors. It is generally agreed that nephro-ureterectomy including the intramural portion of the ureter should be done in a one stage operation^{6, 7 and 8}.

The prognosis is serious. The tendency of these tumors to recur and to metastasize is well known. Probably the results will improve somewhat with earlier diagnosis and the wider use of the radical operation.

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COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. In most instances, more detailed information may be secured from the JOURNAL office.

Second Annual Session of the Postgraduate Institute of the Philadelphia County Medical Society—April 12 to 16, Philadelphia, Pennsylvania.

Sixty-first Annual Convention of the American Association on Mental Deficiency—May 5 to 8, Atlantic City, New Jersey.

Iowa State Medical Society—May 12, 13 and 14, Sioux City, Iowa.

United States Chapter of the International College of Surgeons—June 1 and 2, New York City.

Third Annual Meeting of the American Neisserian Medical Society—June 8, Atlantic City, New Jersey.

American Medical Association—June 7 to 11, Atlantic City, New Jersey.

Fifth International Congress of Hospitals—July 6 to 11, Paris, France.

Fifth International Congress of Radiology—September 13 to 17, Chicago.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

Military Surgeons Convention—October 14 to 16, Los Angeles, California.

American Association of Orthopedic Surgeons, Annual Meeting—January 15 to 19, 1938, Los Angeles, California.

STATE DEPARTMENT OF HEALTH



MORE EMPHASIS ON TUBERCULOSIS

At its regular meeting held in the office of the Iowa State Health Commissioner on January 12, 1937, the State Board of Health adopted the following resolution:

"In view of the fact that the Iowa Tuberculosis Association in its very efficient anti-tuberculosis work in this state has shown repeatedly the need for an officially sponsored program by the state, and in view of the fact that under the Social Security Act, certain federal funds are now available to make such work possible, the Board deems it an opportune time to discuss with the Iowa Tuberculosis Association the feasibility of developing a cooperative program for the control of tuberculosis, and recommends that the Iowa State Health Commissioner confer with the Executive Committee of the Iowa Tuberculosis Association with this purpose in view.

"If arrangements satisfactory to the Iowa Tuberculosis Association can be effected, the Board recommends that there be set up within the Division of Communicable Diseases, a section on Tuberculosis Control which shall be under the direction of a fully qualified physician, specially trained in tuberculosis, whose whole time shall be devoted to tuberculosis control, and who shall carry out a program mutually agreed upon and supported by the Iowa Tuberculosis Association and the Iowa State Department of Health."

Subsequently, on March 12, at its regular annual meeting, the Board of Directors of the Iowa Tuberculosis Association adopted a concurring resolution. Under the joint sponsorship of these two agencies, and financed by them and the United States Public Health Service, a program of tuberculosis control in cooperation with, and acceptable to the medical profession of the state, is contemplated.

The problem of tuberculosis, although seemingly a diminishing one, is nevertheless a vital one, since this disease is the cause of much physical disability, excessive economic loss and premature mortality in certain population groups, particularly young adults, in Iowa. It is believed that vigorous efforts directed along specified lines will be required to bring this "residual" tuberculosis under control. These efforts should be such as will lead to the discovery of tuberculosis as early as possible after the development of pathology, with placement under the care of physicians of the patient's own selection. This is most essential if the prevention of spread of tuberculous infection and the cure of victims of the "great white plague" are to be accomplished. When the patient seeks the advice of a physician by reason of symptoms of pulmonary tuberculosis, the state of pathology is usually rather far advanced. In the latter instance, spread of infection to others in the patient's midst has probably already occurred, and often the prognosis is not good. Efforts and financial resources spent in behalf of such cases will frequently result in disappointment.

The objectives of a plan of tuberculosis control and prevention are:

1. Through logical epidemiologic and diagnostic methods to find existing cases of pulmonary tuberculosis at the earliest date possible.
2. When identified, to place patients under the care of physicians of their own selection.
3. To furnish nursing follow up care, but only in accordance with the instruction of the "physician in charge."
4. Liberally to disseminate information recommended by the family physician, and actually to demonstrate in the home the effective methods of tuberculosis prevention.

5. To put into effect a program, the details of which are to be worked out by the Iowa State Department of Health, the Iowa State Medical Society, and the Iowa Tuberculosis Association, and conducted in no county except on invitation of the Medical Society thereof.

REPORTING OF TUBERCULOSIS IMPROVES IN 1936

The accompanying bar graph (Fig. 1) shows the number of reported cases of tuberculosis for each year and the annual number of deaths from this cause for the ten-year period from 1927 to 1936. There are two features in this bar diagram which call for comment. The first is the fact that the year 1936 witnessed 586 deaths due to tuberculosis, the lowest number of deaths ever recorded in Iowa, or a specific death rate of 23.7 per 100,000 population. The second feature is that in 1936, reported cases of pulmonary tuberculosis in Iowa, totaling 713, exceeded the number of annual deaths for the first time on record.

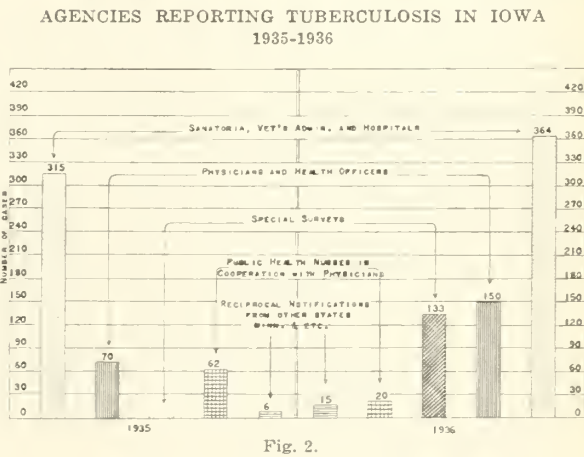
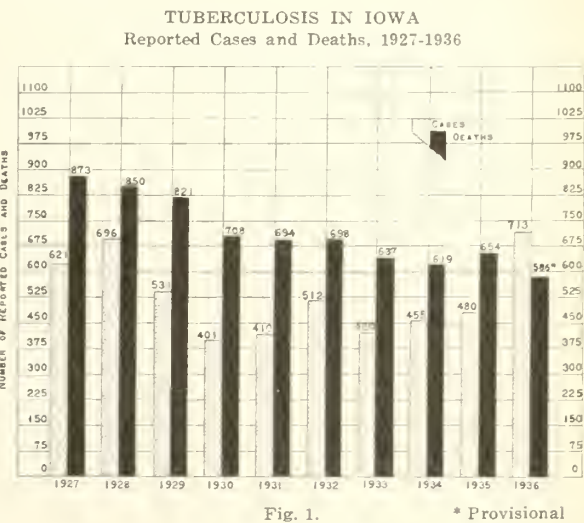
The minimum standard of reporting for tuberculosis, as established by the United States Public Health Service, requires that at least two cases of this disease be reported per annual death. To have met this standard ratio of two to one in 1936, for example, reported cases of pulmonary tuberculosis in Iowa should have numbered at least 1,172 (2 times 586). As a matter of fact, the ratio of cases to deaths was 1.2 to one instead of two to one. With the increased interest in the reporting of cases of active pulmonary tuberculosis manifested by attending physicians, it is believed that Iowa will meet the required standard of reporting in 1937.

Special cards for the reporting of tuberculosis, and addressed return envelopes requiring no postage, will be forwarded promptly by the department to physicians desiring to report cases of this disease. Literature dealing with this subject is also made available to physicians, in cooperation with the Iowa Tuberculosis Association.

Physicians Report More Cases of Tuberculosis

The bar diagram (Fig. 2) indicates the number of cases of tuberculosis reported to the Iowa State Department of Health by various agencies in 1935 and 1936. It will be noted that in most instances more cases were reported in 1936 than in the preceding year. Special surveys conducted in

several counties in 1936 were directly instrumental in the reporting of 133 cases of tuberculosis during the past year. Attending physicians reported 150 cases of this disease last year as compared with 70 cases the year before. This fact is most encouraging and augurs well for the more complete reporting of cases of active pulmonary tuberculosis in persons of all age groups during the current year.



PREVALENCE OF DISEASE				Most Cases Reported From	
	Feb. '37	Jan. '37	Feb. '36		
Dipbtheria	17	15	40	Des Moines, Polk	
Scarlet Fever	1166	621	627	Pottawattamie	
Typhoid Fever	1	3	15	Polk, Black Hawk	
Smallpox	140	92	59	Woodbury	
Measles	11	17	38	Cerro Gordo	
Whooping Cough	94	72	38	Wapello, Webster	
Cerebrospinal				(For State)	
Meningitis	6	4	20	Black Hawk, Boone	
Chickenpox	239	283	203	Boone	
Mumps	124	149	905	Dubuque, Boone	
Influenza	587	8136	21	Woodbury	
Poliomyelitis	3	1	0	Marion, Washington	
Tuberculosis	36	39	15	Bremer, Howard, Polk	
Undulant Fever	6	6	6	(For State)	
Gonorrhea	183	132	99	(For State)	
Syphilis	214	131	123	(For State)	

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THE NEW INSULIN

Recent experiments and investigations in the field of insulin therapy would seem to indicate that another milestone has been passed in the journey toward prolonging the life of the individual suffering from diabetes, and in making his life safer and more normal. Since 1922 when Banting and Best announced the discovery of insulin, research workers have experimented with many preparations in an effort to develop the ideal therapy for diabetes from the standpoint of prolonged action and method of administration.

The newest preparation to receive recognition in this field is that described by Scott and Fisher of the University of Toronto. This new substance is obtained by adding zinc to the protamine insulin brought out last year by Hagedorn and his associates. It was found that the zinc prolonged the hypoglycemic effect and stabilized the preparation. The scientific section of this issue of the JOURNAL carries an interesting and thought provoking paper on this subject by Winnett, in which he reports on the clinical management of forty patients with diabetes mellitus who have received protamine zinc insulin therapy. While the author is justifiably enthusiastic over the results of this new treatment, he very wisely points out possible dangers which may be encountered in the use of this new drug, and stresses the fact that certain precautions must be exercised. Physicians should undertake treatment with protamine zinc insulin only when they are fully acquainted with treatment under a regime of regular insulin. This new preparation definitely does not simplify the care of these patients, however much it may improve their comfort and condition when properly administered.

Noteworthy among the advantages of this new insulin may be mentioned the fact that fewer daily

injections are necessary in selected cases and that a more normal diet seems to be possible. The forty patients so treated received thirty-nine fewer injections during the twenty-four hour period with protamine zinc insulin therapy than they did with regular insulin therapy. An equally important feature is that sudden severe reactions do not seem to occur when an individual is receiving protamine zinc insulin. Reactions do take place, but they do so gradually and extend over a long enough period of time that both the physician and the patient may be warned of the impending disaster. A beginning reaction is characterized by muscular incoordination, vertigo, fatigue, or headaches. Frequent examination of the patient should be made during and after a reaction to prevent the possibility of a relapse, as described by Winnett in one of his patients.

An interesting point in Winnett's report is that the effectiveness of this new drug seems to be influenced by previous regular insulin therapy. His results would indicate that a patient with a severe type of diabetes, but one who had not previously received insulin therapy, could often be controlled more easily with protamine zinc insulin than an individual with a milder type who had received insulin over a period of years. Twelve patients who had had diabetes for one year or less required an average of 5.5 days, eight patients who had had diabetes for one to five years required an average of 8.8 days; and seventeen patients with diabetes of more than five years' duration required an average of 12.6 days.

It is to be hoped that those physicians working with protamine zinc insulin will observe the necessary precautions and contraindications so that the new therapy will not suffer the usual fate of newly advanced methods of treatment. We feel that this new preparation, if used indiscriminately, will create an undesirable reputation for itself; whereas if it is used by well informed observers of this condition, in properly selected cases, it may make possible a happier, more normal life for the individual who is unfortunate enough to have acquired diabetes mellitus.

YOU ARE INVITED

The Woodbury County Medical Society is proud of its position as host to the members of the Iowa State Medical Society for the Eighty-sixth Annual Session. We count it an honor and a privilege to extend to each physician this personal invitation to attend the annual meeting in Sioux City. Our committees and individual members have worked diligently in their efforts to entertain the medical profession in a fitting and appropriate manner. Certain special features have been planned which

promise to make this annual session outstanding in many respects. We know that the Program Committee of the Iowa State Medical Society has arranged a program rich in scientific significance, and we have tried to match that excellence with a program of equal value from an entertainment viewpoint. We have enjoyed the work, the committee meetings, and the conferences, and we will feel fully repaid if you will come to Sioux City, attend your annual meeting, and accept the hospitality which the Woodbury County Medical Society so heartily extends.

T. R. Gittins, M.D., President
W. H. Gibbon, M.D., Secretary

CHILD HEALTH DAY

May Day, the first day of May, has been designated as Child Health Day throughout the nation. It is fitting and proper at this time that the physicians of Iowa take inventory and determine the specific problems confronting the individual community.

The health of the children in any community should and does concern every practicing physician, and inasmuch as it is primarily the physician's responsibility, he should be the one best qualified to judge the health status and to initiate any health activity for the prevention of disease and for the protection of the child population. In the past it has been the practice to relegate health activities to lay organizations, the physician timidly looking on and offering service and advice when called upon. It would seem that doctors should assume a more active and aggressive attitude to make the community health conscious and to institute such measures as are necessary to protect the children of the community. The cooperative effort of the physicians in any community can do more to inspire the confidence of the public in orthodox medicine and can accomplish more in preserving community health than any known governmental agency.

That there is still work to be done in the state of Iowa is demonstrated by the morbidity and mortality statistics. In 1935 forty-seven deaths occurred in children under one year of age for each 1,000 live births. In the first eleven months of 1936 289 cases of diphtheria were reported with twenty-two deaths; smallpox patients numbered 747 with eight deaths; typhoid fever caused thirty-six deaths among 141 cases. The case rate of tuberculosis was 28.85 per 100,000, the highest it has been in the last decade, although the death rate has fallen from 35.62 per 100,000 in 1927 to 19.14 per 100,000 in 1936.

May the real significance of May Day unite

the profession in every community in a common cause and eliminate the petty professional relationships which jeopardize both the standing of the profession and the health of the community.

THE SAFEST AGE

According to statistics recently released in a bulletin of the Metropolitan Life Insurance Company*, the age of eleven, or thereabouts, is the safest age period in the entire span of human life. The mortality rate from all causes at this age is just a little over one per one thousand of white population.

Most people are probably aware in a general way that the age of puberty is relatively free from illnesses, particularly those that lead to a fatal issue. In fact, it is to this haven that parents and physicians look forward when they speak of children "outgrowing" the difficulties that beset their earlier years. However, an analysis of the causes of the deaths which do occur at this most favorable age period, yields information which may not be so well known. For instance data based on statistics gathered during the years 1931 to 1935 show that twenty-eight per cent of all deaths among boys eleven years of age were due to accidents, more than one-third of which resulted from automobiles, and a little less than one-third from drowning. Other accidental causes in the order of greatest frequency, were falls, firearms, vehicles other than automobiles, railroads, and burns. Appendicitis ranks next as a cause of death at this age in a boy's life, the rate being ten per cent of all deaths. Heart disease accounts for nine per cent, and the combined figures for influenza and pneumonia approximate this proportion. The communicable diseases of childhood still take a toll of about four per cent even at this relatively late age, and tuberculosis, which should also be considered as a communicable disease, is responsible for more than three per cent of the total fatalities. The remaining causes of death come from a variety of conditions, no one of which amounts to much, if any, over three per cent of the total.

Among girls of this same age period, however, accidents are in second place with a rate of eleven per cent of the total, while diseases of the heart occupy first place, accounting for twelve per cent of all deaths. Influenza and pneumonia have about the same rate as accidents. Appendicitis ranks fourth, with a rate of nine per cent, and tuberculosis is in fifth place, being responsible for about seven per cent of the total deaths among girls eleven years of age.

*Statistical Bulletin, Metropolitan Life Insurance Company, xvii:1-3 (November) 1936.

It seems hardly necessary to draw any conclusions from a study of this nature, since its significance is readily apparent. Although the mortality rate at eleven years of age is at the bottom of the curve, the conditions which result in loss of life are those in which further reductions should be attained. Here again the physician is called upon to play the major rôle. With his knowledge of the dangers attendant upon such an age level as the one under discussion, he is in a position to take the lead in programs designed to prevent automobile fatalities and deaths from drownings, the two conditions which taken together account for two-thirds of the fatal accidents in boys eleven years of age. Appendicitis, communicable diseases, and tuberculosis are likewise vulnerable on many fronts to the attack of the alert physician. The age of eleven may be the safest age, but it can be made much safer yet.

MEDICAL SERVICE PLANS

The contribution of medical science to the life of the individual and the value of medical services has been brought to the foreground most emphatically within the past few years. Medical service has become recognized as one of the four fundamental needs of the human being, viz., food, shelter, clothing and medical attention. This heightened consciousness of the need of medical services has been accompanied by an increased demand by at least part of the public for a reorganization of medical practice so that adequate medical services will be equally available to each and every person in need of such care.

Various plans have been proposed by as many different agencies; nor have the members of the medical profession been remiss in earnestly endeavoring to work out methods by which medical services may be made more readily available. In the end, the most satisfactory solution must come through such sources. It is their services which are being offered and only they are in a position to say whether or not the proposed arrangement is satisfactory.

A plan of this kind in order to be successful must first of all be comprehensive and well balanced. It must take all factors into consideration. It must provide for all types of people. In the discussion of plans for medical care, we must recognize three separate and distinct groups to whom such services must be available.

1. The comfortable or well-to-do class—those who are able to take care of all their own expenses for medical care by their own method.
2. The low income group, most of whom can take care of the minor illnesses but who need

assistance in paying for major or chronic illnesses.

3. Those who are without means to provide for any medical service.

The first group constitutes no problem in any community and need not be considered in this discussion.

The third group is one which was long considered the sole responsibility of the physician. When this group constituted only a fractional part of his practice, the physician could and was glad to extend charity to them. With the changing economic picture and the rapid increase in the size of this group, such an arrangement is no longer feasible in most instances. At best the doctor will always make his contribution in the way of charitable work, but the care of the indigent, including his medical care, is a civic responsibility and is gradually being assumed as such by the public, which is slowly awakening to its responsibility in this matter. In Iowa we were fortunate in formulating a plan of medical care for these people which has worked out most successfully and has been heralded with much acclaim throughout the rest of the country. This "Iowa plan" for the care of the indigent through county contracts between the members of the county medical societies and the boards of supervisors is a familiar story to the physician in Iowa and needs no elaboration.

Today it is the middle group, the low income class, on which attention is being concentrated. It has been granted by the Bureau of Medical Economics of the American Medical Association that a real problem does exist among the fifteen or twenty per cent of the members of this class which suffer each year from illnesses which involve the loss of considerable time and the expenditure of burdensome amounts for medical care. In reality it has been found that the care of this comparatively small fraction of the low income group is mainly responsible for the demand for special plans in the distribution of medical care.

Of the numerous plans which have been devised by medical organizations to meet the needs of the low income group, probably the best known and most successful are those of the Wayne County (Michigan) Medical Society and the Medical Society of the District of Columbia, better known as the "Washington Plan". The fact that these plans have been so successful is probably due to the fact that they are integral parts of comprehensive plans for rendering adequate medical care to all groups. The essential features of both plans are similar. They provide a means by which people of low incomes may pay for their medical services by extending the payments over a period of time, preferably not longer than a year. The phy-

sician is supplied with information relative to the patient's income, expenses, etc., which he needs in order to determine a fair fee for his services to the individual. Through the cooperation of the participating professional groups, individuals in the low income group may take care of all bills for medical services by making only one payment a month at a central bureau; this amount is prorated among the participating groups after ten per cent has been deducted for overhead expenses. Under these plans it is possible to maintain the private patient-physician relationship.

The advantages of such plans were well summarized in an article appearing in the *Medical Annals of the District of Columbia* for March, 1935.

1. The plan relieves the physician or dentist of the time-consuming business of getting the necessary data to formulate a plan of payment for the patient. It puts the economic aspect of medical and dental practice on a businesslike basis, relieving the professional man of the unpleasant relationship with patients.

2. The patient, dealing with a business organization and knowing that he has signed a contract for payment, will be much more apt to pay regularly on his account.

3. The patient learns how to budget the expense caused by illness or the prevention of illness, and when another illness arises will be familiar with the plan.

4. The doctor is much more apt to keep his clientele intact since the patient not being in default will not find it necessary to go to other physicians or dentists for future illnesses.

5. Patients are permitted to maintain their self-respect, since there is little likelihood of defaulting carelessly. Also, they are much more willing to pay a small amount regularly to a business bureau than they are to a professional man since there is a tendency in the latter instance to consider a small payment demeaning.

6. No interest is charged the patient and, therefore, he has reason to understand that he is being rendered a service and not being exploited.

7. It is more likely that employers in general will cooperate in helping their employees fulfill their contracts for the payment of medical and dental bills.

8. If the professions get squarely behind this plan, they will go a long way to demonstrate the lack of necessity for health insurance such as is being agitated at the present time.

The Washington plan is restricted to the dental and medical professions, whereas the Wayne County plan includes physicians, dentists, nurses, pharmacists and hospital executives.

Many of the plans which have been devised to care for the low income group are based on the general principles of the two plans mentioned, modified to meet the needs of the particular community in question. In Iowa the Polk County Medical Society and the Linn County Medical Society are the only two county societies known to have plans operated by the medical societies to meet the needs of the low income group. A brief story of each of these two plans is given so that the other counties in Iowa may become familiar with the service rendered by these two societies in their communities.

The Polk County Medical-Dental Bureau

The Polk County Medical-Dental Bureau was first organized early in 1935. With the beginning of 1937 it has started on its third year of operation. The plan has proved very successful as is evinced by the increasing demands for its services.

In brief, the plan may be summarized as follows: The individual who wishes to take advantage of the service is referred to the Bureau by his family physician, or, in the event that he has no family physician, he may approach the Bureau direct. In the latter instance a doctor is chosen; this is done by a system of rotation and the choice is dependent upon the type of service needed. In the case of all individuals, whether they have been referred to the Bureau or have come to it directly, a social service checkup is made in order to determine as nearly as possible the applicant's income, his obligations and his ability to pay. Those in charge of the Bureau insist that the applicants have steady and permanent employment. The employer is contacted and asked to cooperate in the plan, insofar as keeping the individual employed and aiding in stressing the importance of the applicant's obligation. The cooperation of the hospitals and pharmacists, in addition to that of the physicians and dentists, was secured in order to make a more perfectly workable medical service plan. The applicant signs a contract in which is designated how much he is to pay to the Bureau each month. Ten per cent of all payments is retained in the executive office of the Bureau (the Polk County Medical Society) to cover overhead expense. When the medical service and/or hospital service is completed, all bills are remitted to the central office of the Bureau. At that time a special committee, comprised of one from the hospital group, one from the dental group, and three from the medical group, adjudicate the bill. This is done by reducing the amounts of all bills in proportion to the ability of the applicant to pay over the period of a year's time. (During the past year this time has been extended an additional six months,

thereby not necessitating such a severe reduction in the bills). The central office on the first of each month remits to the participating groups the amount due them, collected during the preceding month.

For many people this Bureau has served admirably as all they needed was a credit extended over a longer period of time than is usually customary and having only one bill to pay at one central place rather than at several. The amount of service being extended is gradually increasing, both to the individuals coming directly to the Bureau and to those being referred by their own physicians. At no time has there been any expression of dissatisfaction on the part of any applicant, either as to the service he received or the manner of his payments. There have been a few accounts which were not paid, but that was when the Bureau was first in operation and before those in charge were fully aware of the possibilities of the plan. Officials of the Bureau now feel that it is offering a distinct service to the community and that it has been responsible for maintaining the morale of a large group of people. Incidentally it has brought to physicians, dentists and hospitals, compensation for services which otherwise would have had to be secured through charity or not at all.

Experience in the operation of this Bureau has demonstrated that certain principles must be adhered to in order that the plan may be effective. First, the people to whom the service is extended must be regularly and permanently employed; second, the wages of these individuals must be sufficient to enable them to make regular payments; third, no transients should be allowed to receive this service; and fourth, the Bureau must be operated under one head and the cooperation of the dentists, the hospitals and the physicians must be secured if the plan is to be operated successfully and effectively.

The Linn County Medical-Dental Business Bureau

On March 1, 1936, the Linn County Medical Society and the Cedar Rapids Dental Society in conjunction with the Health Committee of the Chamber of Commerce, organized the Medical-Dental Business Bureau for the purpose of providing medical, dental and hospital services for the low income group of people of Linn County at a cost in keeping with their budget.

The Linn County plan operates as follows: Private conferences are arranged at the Bureau office, where the family budget is discussed. The Bureau then presents these facts to the doctor of the patient's choice and the doctor sets his fee to fit in with the patient's budget, including a convenient

method of settlement of the bill. Thus this plan provides a community service because it insures adequate medical and dental care for employed people at a cost commensurate with their income. Physicians cannot discuss a patient's financial situation at a time of illness. Compensation is secondary to the welfare of the patient and is subject to arrangement. It is a saving and a definite service to the average family to furnish the Bureau with the facts upon which the doctors and the dentists base their fees. The budgeting of medical, dental and hospital expenses is an educational program. Industry and business men are willing to cooperate with the Bureau because they feel that their employees should provide in their budgets a definite amount for hospital and medical bills. Experience along this line has been very favorable because after the employee has arranged a definite program to fit his budget, he is expected to fulfill that agreement. Payments are arranged on a weekly, semi-monthly or monthly basis to accommodate the patient. No interest or carrying charge is made.

By referring his credit patients to the Bureau for arrangements, the physician is assured that he will learn his patients' financial problems and that all details in connection with the payment of his fee will be handled on a strictly business basis. The Bureau makes the nominal charge of ten per cent of all accounts handled on the pre-arranged credit plan. This is deducted from the amount paid the doctors and is used to defray overhead expenses of operating the Bureau. Experience shows that with accounts arranged on a budget basis, the doctor receives a higher percentage for his work than when the account is not so arranged and settlement is made after a year or more under the forced collection method. Patients hesitate to come to a doctor's office to make regular weekly or semi-monthly payments of a few dollars. At the Bureau, those in charge are able to show these people how easy it is to settle their accounts. A credit file has been established which gives the past history of professional accounts. This credit experience is valuable to doctors, because it will eliminate the practice of patients going from one doctor to another without paying any bills. Information from this file is available to all doctors and hospitals without charge. Many patients come to the Bureau to settle past due accounts in order to preserve their professional credit.

In organizing a medical and dental bureau there are many difficulties. The problem of educating the public is a slow, tedious process. It is accomplished by securing cooperation of industry and business through the Chamber of Commerce, by newspaper publicity, by printed material in pay-

roll envelopes, by personal appearances at union meetings, company meetings and public service groups. Doctors are slow to change their ways of doing business. It is difficult for the doctor to present this plan to his patient in the right light so that the patient will not resent the plan as a collection scheme or an attempt to pry into his private business. It is the feeling, however, that this is the solution for the patient who cannot settle his account within a reasonable length of time or who has a large family and a limited income. It is also the answer to socialized medicine because it assures the people of adequate medical, dental and hospital care at a price they can afford to pay.

MINUTES OF MEETINGS OF STATE SOCIETY COMMITTEES AND OFFICERS

Meeting of Committee on Public Policy and Legislation, March 9, 1937, State Society Office

Roll Call: Fred Moore, Chairman, Des Moines and R. D. Bernard, Clarion. Absent: S. W. Corbin, Corydon.

Transactions: Discussion of activities of committee.

Meeting of Board of Trustees, March 9, 1937, State Society Office

Roll Call: All members of the Board were present. Others in attendance were: E. M. Myers, Boone, President-elect; F. A. Ely, Des Moines, Chairman of Medico-Legal Committee; Robert L. Parker, Des Moines, Secretary; Lee F. Hill, Des Moines, Editor.

Transactions: 1. Approval of monthly bills. 2. Approval of audit submitted at last meeting of the Board. 3. Report of Medico-Legal Committee concerning selection of attorneys to represent members of the Society in medical defense cases to succeed late Attorney C. M. Dutcher. The Board recommended one change in the selection. 4. Presentation of proposed letter to be sent to attorneys selected by Medico-Legal Committee. Letter approved with minor corrections suggested. 5. The Editor reported that the cost of copyrighting the JOURNAL of the Iowa State Medical Society would be \$25.00 a year. He recommended that such action be taken. The Board adopted his recommendation. 6. Discussion by the Editor of other services which might be extended to members through the JOURNAL, such as making arrangements for having the year's issues of the JOURNALS bound for permanent filing. By having all binding done in one place, price would be reduced. This would be paid for by members having it done. He said it had been reported that in other states members were given privilege of inserting want ads in JOURNAL without cost. The Board voted that the JOURNAL offer this service to members, ads to be limited to professional advertising and published at discretion of the Editor. 7. Discussion of advisability of having an editorial board to assist Editor in stimulating members out over the state to

prepare articles, review books, etc., for publication in JOURNAL. Board advised that this was within province of Editor but advised that such a Board be unofficial. 8. Approval of quarterly statement from Dutcher, Walker & Ries, which had been misunderstood but was explained by Medico-Legal Committee. 9. Authorization for acceptance of notes from two members in payment of 1937 dues. 10. Report of Committee on Public Policy and Legislation, and discussion of past and proposed activities.

Meeting of Committee on Finance, March 9, 1937, State Society Office

Roll Call: All members present. E. C. McClure, Bussey, Chairman; A. S. Bowers, Orient; L. L. Carr, Clermont.

Transactions: Review of 1936 books of Iowa State Medical Society, 1936 audit, bills, orders and checks. Voted to accept audit with one slight correction and approve books for the past fiscal year.

Meeting of the Council, March 20, 1937, Hotel Fort Des Moines

Roll Call: All members present except A. W. Erskine, Cedar Rapids, C. W. Ellyson, Waterloo, and C. A. Boice, Washington. Others in attendance: Prince E. Sawyer, Sioux City, President; Robert L. Parker, Des Moines, Secretary; F. P. McNamara, Dubuque, Chairman, Cancer Committee; T. F. Thornton, Waterloo, Chairman, James C. Hill, Newton, A. C. Moerke, Burlington, of the Committee on Medical Economics; W. R. Brock, Sheldon, Chairman, and John H. Henkin, Sioux City, of the Committee on Constitution and By-Laws.

Transactions: 1. Discussion of proposed changes in the Constitution and By-Laws which the Council deems necessary to give individual Councilors authority to carry out the responsibilities delegated to them. Following the discussion the Council voted that the State Society Committee on Constitution and By-Laws reword and revise the proposed changes made by the Council Committee in accordance with the day's discussion and incorporate these proposals in the Committee report to the House of Delegates. 2. Discussion of the cancer program being carried out under the direction of the Women's Field Army. Councilors reported much enthusiasm over the educational phases of the program but opposition to the financial phase—that of securing enlistments. Many felt that members of the medical profession or their wives should not have anything to do with this part of the program. The importance of the expenditure of these funds being directed by the local medical profession and an accounting to the public of the expenditures were stressed. Motion was passed that that portion of the enlistment funds apportioned to Iowa should be placed in the hands of the State Treasurer of the Women's Field Army and not expended without approval of the executive committee of the Cancer Committee of the Iowa State Medical Society. Furthermore that a report of the method in which the funds had been spent should be made annually to the Council as the Cancer Committee. 3. Report of Medical Economics Committee

concerning the problem of a medical program for the rural resettlement clients in Iowa. Dr. Thornton reported that the Rural Resettlement Administration had contacted the State Society office in the hopes that a program could be worked out. He read a letter outlining a proposed program. Discussion revealed this program was not approved by the Medical Economics Committee. Dr. Thornton reported on conference between members of his committee with committees in adjoining states dealing with this problem. He recommended that in Iowa this problem be investigated as to just how serious the situation was before action was taken. Council endorsed this recommendation. 4. Discussion of medical plan of Iowa Emergency Relief Administration. Council adopted a motion to recommend to the House of Delegates that the Iowa State Medical Society refuse to cooperate with this medical relief set-up until a satisfactory fee schedule was agreed upon and an agreement reached that there should be no horizontal cuts from this schedule. 5. Emphasis of fact that over a year and a half ago the Council had withdrawn its approval of this medical relief set-up. 6. Discussion of the pediatric program under the Social Security Act, which is under the supervision of the College of Medicine and is to be carried out under the sponsorship of the Speakers Bureau. Purpose of the program is strictly educational; provides for speaker on pediatrics to county medical societies and distribution of educational material dealing with this subject. Council voted to approve cooperation in the program.

**Meeting of Committee on Constitution and By-Laws,
March 20, 1937, Hotel Fort Des Moines**

Roll Call: W. R. Brock, Sheldon, Chairman and John H. Henkin were present.

Transactions: 1. Met jointly with Council to hear discussion of changes in Constitution recommended by that body. 2. Revised changes recommended by Council in accordance with discussion. 3. Passed on other changes to be included in report of the Committee.

**Meeting of the Medical Economics Committee,
March 20, 1937, Hotel Fort Des Moines**

Roll Call: All members were present except James C. Donahue of Centerville.

Transactions: 1. Met with Council to present matter of medical program for rural resettlement clients for their consideration. 2. Decided to investigate the problem before taking any action. 3. Drew up a questionnaire to be sent to all county society secretaries which would provide the necessary information concerning this matter. 4. Concurred in motion of Council to recommend to the House of Delegates that the Iowa State Medical Society refuse to cooperate with the medical relief set-up of the Iowa Emergency Relief Administration until a satisfactory fee schedule could be agreed on and fee schedule would not be cut.

WPA COMPENSATION CASES

Because of the difficulty which the Works' Progress Administration is experiencing in securing from the medical profession in Iowa detailed reports as requested by the United States Employees' Compensation, we have been asked to call the attention of members of the Iowa State Medical Society to the following article submitted by Mr. E. M. Vest, State Director of the WPA Compensation Department:

"The United States Employees' Compensation Commission is experiencing difficulty in securing from the examining physicians, particularly eye specialists, all of the information requested on Forms U. S. 205 and DCCA-305, when eye examinations are made. All of the information requested is essential; especially important is the Snellen Reading of each eye, both with and without correction, also far distance and near where correction is necessary to improve the vision or to bring it up to normal. Such information is necessary in order properly to amend awards and adjudicate future claims that will naturally arise from this type of injury, and it is essential that the Commission have on file a definite reading of each eye at the time the original award is made.

"If you are treating an injured eye for a WPA worker and are requested to complete these forms, will you please give them your special attention in regard to the information requested thereon, and see that the report is made in *detail*.

"Your cooperation in this matter of procedure will expedite the work on eye cases and the payment of medical vouchers under the WPA program."

EXAMINATIONS FOR THE NAVY MEDICAL CORPS

From time to time the Medical Corps of the United States Navy offers a number of internships and commissions to graduates of Class "A" medical schools. With the thought that some young physicians in the state of Iowa might be interested in securing such a commission, we are setting forth pertinent facts in regard to them, in accordance with a request recently received from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

The dates for the next examinations for the above positions are May 10, 1937 and December 1, 1937. Candidates, in addition to the required graduation from a Class "A" medical school, must be United States citizens between the ages of twenty-one and thirty-two years at the time of appointment, and must pass a physical and professional examination. Qualified candidates will be commissioned as assistant surgeons with the rank of Lieutenant (junior grade), and assigned to the Naval Medical School, Washington, D. C., for a postgraduate course of instruction. Officers with the rank of Lieutenant (junior grade) without dependents receive compensation of \$2,699 a year, while those with dependents receive \$3,158 a year. There are additional cash allowances.

Those physicians who are interested may obtain further details by writing to the above mentioned Bureau at Washington, D. C., and any who might wish to take the examination on May 10, should write immediately.

Woman's Auxiliary News

EIGHTH ANNUAL MEETING

The Eighth Annual Meeting of the Woman's Auxiliary to the Iowa State Medical Society will be held in conjunction with the Eighty-sixth Annual Session of the Iowa State Medical Society in Sioux City, May 12, 13, 14, 1937. The program will include a luncheon for board members and presidents of county auxiliaries, a luncheon and a dinner for all members, with music and entertainment. Outstanding numbers on the program will be addresses by two past presidents of the American Medical Association, Dr. Dean D. Lewis and Dr. W. L. Bierring. Dr. Charles Gordon Heyd, president of the American Medical Association, as well as Dr. Prince E. Sawyer and Dr. Edward M. Myers, president and president elect of the Iowa State Medical Society, respectively, will also appear on the program. The usual routine of business and election of officers, and other entertainment to be announced later, will complete the program.

Washington County

The Washington County Auxiliary has been holding regular meetings every two months, meeting on the same evening that the County Medical Society convenes. At the December meeting, Dr. R. M. Sorensen, Director of the Washington County Health Unit, presented an instructive discourse on "Contagious Diseases." On March 2, the meeting was held at the home of Mrs. W. E. Anderson, after a dinner served at a local cafe. This being the annual guest night, "Greetings" were extended to the guests by the state president, Mrs. C. A. Boice, who is a member of this unit. Mrs. C. W. McLaughlin presented a very interesting review of the article "Successful Living," by Dr. Andrew H. Woods of the Psychopathic Hospital of the State University of Iowa. This organization is striving to cooperate with the state and national organizations in their projects and plans.

Pottawattamie County

Committee appointments for the ensuing year were made at a meeting of the Auxiliary to the Pottawattamie County Medical Society at the home of Mrs. J. B. Thornell. Mrs. J. L. Stech and Mrs. S. D. Maiden will serve on the public relations committee. Mrs. A. A. Robertson, chairman of the program committee, will be assisted by Mrs. C. V. Edwards, Mrs. Walter Hombach, Mrs. Karl Werndorff, and Mrs. Guy McCutchan. Mrs. Grant Augustine will serve as chairman of the legislative committee and Mrs. Arthur C. Brown and Mrs. Arnold Jensen comprise the courtesy committee. Following the dinner, which was served at 6:30, Dr. G. V. Caughlan, cancer chairman for Pottawattamie County, spoke on "Cancer and the Methods of Its Control."

Speakers Bureau Activities

POSTGRADUATE COURSE AT CLINTON

The Speakers Bureau Committee and the Clinton County Medical Society are presenting a postgraduate course in general therapeutics at Clinton. Two lectures have already been given, but there are three remaining on the course, and any physician in the vicinity of Clinton who is not already enrolled is welcome to attend the last three lectures at a reduced fee. Meetings are held in the Lafayette Hotel, and start at 5:00 P. M. Dinner is served between 6:00 and 7:00, and the lectures conclude at 8:00 P. M. The outline of the course is as follows:

- March 18 The Modern Treatment of Heart Disease
Clayton J. Lundy, M.D., Chicago
- March 25 The Diagnosis and Treatment of Nephritis
Louis Leiter, M.D., Chicago
- April 15 The Present Status of Endocrine Therapy
Elmer L. Sevringhaus, M.D., Madison
- April 22 The Diagnosis and Treatment of Arthritis
Charles H. Slocumb, M.D., Rochester
- April 29 Medical Treatment of Gallbladder Disease
Fred M. Smith, M.D., Iowa City

PEDIATRIC LECTURES

The Department of Pediatrics of the College of Medicine of the State University of Iowa has placed at the disposal of the Speakers Bureau one of its staff members, Dr. Mark W. Dick. Dr. Dick will be very glad to speak before any county medical society meeting on pediatric subjects, giving the latest methods of treatment of communicable diseases, the essential principles of proper nutrition, and the general management of childhood diseases. He is available at any time. It is the thought of the Speakers Bureau that the sections of the state which have not yet had a "refresher" course might take advantage of this opportunity, and have Dr. Dick give them one or more lectures on different pediatric subjects. Printed material dealing with the various aspects of pediatrics will be made available very soon, and will be free to the physicians of the state.

In addition to the lectures to county medical societies, Dr. Dick will be glad to hold afternoon meetings before his talks and at that time examine any medically crippled children (diabetic and cardiac). The following rules have been formulated for the afternoon meetings:

1. The work will not be undertaken unless requested by the county medical society.
2. It will not be carried on except under the direction of the family physician.
3. It is available for children in indigent families only.

(Continued on page 178)

SOCIETY PROCEEDINGS

Black Hawk County

George B. Eusterman, M.D., of The Mayo Clinic, Rochester, Minnesota, was guest speaker for the Black Hawk County Medical Society at its meeting held in Waterloo, Tuesday, March 16. Dr. Eusterman spoke on An Appraisal of Newer Methods of Diagnosis and Treatment of Gastro-intestinal Disorders.

Calhoun County

The Calhoun County Medical Society met in Rockwell City, Tuesday, March 16, and F. W. Hobart, M.D., of Lake City, presented a paper on Spinal Anesthesia, after which motion pictures on general anesthetics were shown.

Cherokee County

A general discussion of county relief and medical fees was held by members of the Cherokee County Medical Society at their meeting in Cherokee at the Sioux Valley Hospital, Monday, March 15. Following this portion of the session, motion pictures were shown depicting interposition of the uterus and posterior colporrhaphy. Dr. John M. Pope of Cherokee was elected secretary and treasurer, to replace the present officer who is leaving the county.

E. D. Lovett, M.D., Secretary

Clinton County

At the regular monthly meeting of the Clinton County Medical Society held Thursday, April 1, Raymond W. McNealy, M.D., associate professor of surgery, Northwestern University Medical School, addressed the group on The Surgical Management of Phlebitis. The next meeting will be held Thursday, May 6, at which time the society will entertain Frederick A. Willius, M.D., of The Mayo Clinic as guest speaker.

A. K. Meyer, M.D., Secretary

Dubuque County

The monthly meeting of the Dubuque County Medical Society was held Tuesday, March 9, at the Elk's Club in Dubuque. A dinner preceded the meeting. A. M. Lash, M.D., of the University of Illinois, College of Medicine, Chicago, was the guest speaker of the evening. He gave a very interesting talk on Prophylaxis and Early Diagnosis of Female Genital Cancer. Dr. F. P. McNamara reported that the Dubuque County Women's Field Army for cancer control was well organized. The Dubuque Woman's Club has asked the Dubuque County Medical Society to be its guest at a lecture by Maude Slye of the University of Chicago. The Woman's Club is sponsoring this address as a part of the cancer control movement.

L. E. Cooley, M.D., Secretary

Harrison County Annual Meeting

Officers elected at the recent annual meeting of the Harrison County Medical Society are: Dr. Floyd G. Sarff of Logan, president; Dr. Harry N. Anderson of Woodbine, vice president; Dr. Frank H. Hanson of Magnolia, secretary and treasurer; and Dr. H. W. Mathiasen of Persia, delegate.

Hardin County

W. W. Bowen, M.D., of Fort Dodge, furnished the scientific program for the Hardin County Medical Society, at a meeting held in Eldora, Tuesday, March 30, with an address on Fractures of the Hip.

W. E. Marsh, M.D., Secretary

Jasper County

Members of the Jasper County Medical Society convened Tuesday, March 2, at the Skiff Hospital in Newton, for their regular monthly meeting, and listened to a paper delivered by M. R. Hammer, M.D., of Newton on The History of Medicine in Jasper County. Dr. Hammer is the only living charter member of the original county medical society.

Johnson County

The Johnson County Medical Society met in regular session Wednesday, March 3, at Youde's Inn, in Iowa City, for a dinner meeting, after which the following program was presented: The Rôle of Anxiety in Disease, William Woods, M.D., discussion opened by Stephen Weisz, M.D.; Results of Cholecystectomy in Stoneless Gallbladders, Carl A. Kunath, M.D., discussion opened by Fred M. Smith, M.D. All essayists were from the University.

W. M. Fowler, M.D., Secretary

Linn County

The next meeting of the Linn County Medical Society will be held in Cedar Rapids, Thursday, April 29, when the society will entertain Jennings C. Litzenberg, M.D., professor of obstetrics and gynecology of the University of Minnesota Medical School, Minneapolis. Dr. Litzenberg will speak on Injuries to the Uterine Supports; Their Consequences and Treatment.

Pottawattamie County

Edward N. Cook, M.D., of The Mayo Clinic, Rochester, Minnesota, was guest speaker for the Pottawattamie County Medical Society when that organization met in Council Bluffs, Monday, March 22. Dr. Cook spoke on The Use of Mandelic Acid in the Treatment of Urinary Infections. Featured also on the program were papers by two Council Bluffs physicians: the first, Relief of Pain in Childbirth, by

Joseph B. Thornell, M.D.; and the second, Negative Pressure Drainage in Empyema, by Arnold L. Jensen, M.D. The next meeting will be held Monday, April 12, as a forum on the control of venereal diseases, and will be open to the public.

F. H. Beaumont, M.D., Secretary

Sac County

The Sac County Medical Society met Wednesday, March 3, and the following scientific program was presented by Sioux City physicians: A New Method of Treating Fractures of the Hip, Walter Scott, M. D.; Bronchoscopic Treatment in Acute Conditions in the Chest Due to Foreign Bodies, T. R. Gittins, M.D.; Coronary Heart Disease, R. J. Harrington, M.D. These papers were very instructive and were well received.

G. H. Bassett, M.D., Secretary

Sioux County

Miss Genevieve Janssen, director of relief in Sioux County, met with members of the Sioux County Medical Society, Monday, March 15, and explained the use of the new relief authorization forms which put the responsibility of obtaining medical relief on the relief client. Sanction was given, and plans were made, for a county wide smallpox vaccination campaign to be conducted in the fall of 1937. Dr. A. L. Lock of Rock Valley and Dr. T. J. Glasscock of Hawarden, were elected delegate and alternate delegate respectively.

C. B. Murphy, M.D., Secretary

Washington County

The regular meeting of the Washington County Medical Society was held Tuesday, March 30. James A. Dunn, M.D., of Davenport, was guest speaker, and delivered a splendid talk on Communicable Diseases, stressing especially smallpox, whooping cough, and scarlet fever.

W. S. Kyle, M.D., Secretary

Woodbury County

R. Russell Best, M.D., assistant professor of anatomy and surgery, University of Nebraska, College of Medicine, furnished the scientific program for the Woodbury County Medical Society at a meeting held Thursday, March 25, at the West Hotel in Sioux City. Dr. Best spoke on Some Recent Advancements in the Diagnosis and Management of Biliary Tract Disease.

W. H. Gibbon, M.D., Secretary

Eleventh Councilor District Meeting

Physicians residing in the Eleventh Councilor District of the Iowa State Medical Society convened for a meeting Wednesday, February 10, at the Hotel Chieftain in Council Bluffs. Ruben Nomland, M.D., head of the department of dermatology at the State University of Iowa, College of Medicine, conducted a skin clinic from 4:30 to 6:00 o'clock. After the six-thirty dinner, the following program was presented during the evening: Diagnosis and Manage-

ment of Common Diseases of the Skin, Dr. Nomland; and The University Hospital and Its Relation to the People of the State, E. M. MacEwen, M.D., dean of the State University of Iowa, College of Medicine.

Pottawattamie County Interprofessional Association

Plans for forming the Pottawattamie County Interprofessional Association were recently completed, thereby banding together in a common cause members of the medical, dental, druggist, nursing and veterinary professions. The group has elected the following officers: M. C. Hennessy, M.D., president; J. A. Leuth, D.V.M., vice president; and Miss Sara Scott, R.N., secretary and treasurer. The board of directors is composed of three representatives from each of the professions.

Tri-County Medical Society

The Tri-County Medical Society, composed of physicians residing in Henry, Jefferson and Washington counties, held a meeting at the Harlan Hotel in Mt. Pleasant, Wednesday, March 10. Mrs. C. W. McLaughlin of Washington, State Commander of the Women's Field Army in Iowa, presented briefly the plans and purposes of the organization. The speaker of the evening was Albert M. Snell, M.D., of the Mayo Clinic, Rochester, Minnesota, who addressed the group on The Diagnosis of Conditions Associated with Jaundice.

PERSONAL MENTION

Dr. G. Dean Tipton, formerly assistant superintendent at the State Hospital in Clarinda, has been appointed medical director of the Fair Oaks Villa, in Cuyahoga Falls, Ohio.

Dr. W. E. Long of Mason City, recently gave a radio talk over Station KGLO in Mason City, on "The Past and Present Status of Service Clubs".

Dr. E. D. Lovett, formerly associated with the State Hospital in Cherokee, is locating in Vinton for the private practice of medicine.

Dr. Leonard P. Ristine of Mt. Pleasant, spoke before the Business and Professional Women's Club of that city, Thursday, March 18, on "Public Relations between the Hospital and the Community it Serves".

Dr. Roland T. Rohwer, who has practiced for the past eight years in Mitchell, South Dakota, has located in Sioux City. Dr. Rohwer was graduated in 1925 from the Creighton University School of Medicine.

Dr. H. D. Holman of Mason City, recently journeyed to Guatemala, where he attended the Latin

American Congress of Physical Therapy, X-Ray and Radium. Dr. Holman delivered an address before the University Medical School at Guatemala City.

Dr. C. G. Clark, who has practiced twenty years in Atlantic, has located in Shenandoah, where he will continue in the practice of medicine.

Dr. C. V. Allen, formerly of Le Mars, has accepted an appointment on the medical staff in the hospital of the federal penitentiary on McNeil Island, Steilacoom, Washington.

Dr. William Malamud, assistant director of the psychopathic hospital, at the State University of Iowa, spoke on "Early Environmental Factors as Causes and Prevention of Delinquency", at a meeting of the Davenport Council of Social Work, Wednesday, February 24.

Dr. Harold B. Dye, superintendent of the state institution at Glenwood, announces the appointment of Dr. John H. Kuitert on the medical staff, to succeed Dr. Edward B. Grossman, who recently resigned to enter private practice at Orange City. Dr. Kuitert was graduated from George Washington University School of Medicine, and comes direct from Omaha, where he has been on the Clarkson Hospital staff.

Dr. H. F. Hartje has returned to Adair, after an absence of one year, during which he practiced medicine in Atlantic. Prior to going to Atlantic, Dr. Hartje had been located in Adair for eleven years.

Dr. E. S. Korfmacher of Grinnell, addressed a local Parent-Teacher Association, Tuesday, March 9, on "The Health of the Adolescent Child".

Dr. Horace M. Korn, professor of internal medicine at the State University of Iowa, College of Medicine, addressed the doctor's staff of St Luke's Hospital, Davenport, Tuesday, March 16, on "The Modern Treatment of Pneumonia".

Dr. R. A. Powell, formerly of Villisca, is locating in Farragut, where he will take over the practice of the late Dr. H. L. Coleman.

Dr. L. H. Prewitt of Ottumwa, announces the association with him in the practice of his specialty, eye, ear, nose and throat diseases, of Dr. Gilbert C. Struble, who was graduated in 1930 from the University of Nebraska, College of Medicine. Dr. Stru-

ble served his internship at the William Beaumont General Hospital, a United States Army Hospital, in El Paso, Texas.

DEATH NOTICES

Coontz, Jesse S., of Leon, aged sixty-one, died February 28 after an extended illness. He was graduated in 1903 from the Keokuk Medical College, College of Physicians and Surgeons, and at the time of his death was a life member of the Decatur County and Iowa State Medical Societies.

Finch, Hiram Clayton, of Pulaski, aged eighty-three, died March 7 after an illness of several months. He was graduated in 1881 from the Medical College of Indiana, Indianapolis, and at the time of his death was a life member of the Davis County and Iowa State Medical Societies.

Kase, Paul, Jr., of Northwood, aged thirty-four, died suddenly March 21, of heart failure. He was graduated in 1931 from the University of Michigan Medical School, Ann Arbor, and at the time of his death was a member of the Worth County Medical Society.

Newland, John Elzo, of Center Point, aged forty-three, died March 13 from cancer of the lung. He was graduated in 1917 from the Hahnemann Medical College and Hospital, Chicago, and at the time of his death was a member of the Linn County Medical Society.

Syp, William Ward, of Centerville, aged sixty-four, died March 3 at the home of Dr. and Mrs. W. A. Harris in Santa Ana, California, where he and Mrs. Syp had planned to spend several weeks, while the doctor recuperated from a recent illness. He was graduated in 1895 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Appanoose County Medical Society.

SPEAKERS BUREAU ACTIVITIES

(Continued from page 175)

4. The health center will not be given in areas served by a physician limiting his practice to pediatrics. (To be determined by the Iowa Pediatric Club.)

Two medical social service workers have been selected to help with the work of rehabilitating these medically crippled children. The purpose of the afternoon meeting is to help the family physician determine a program for such children, and he alone is to be in charge of carrying out the treatment. The Speakers Bureau will be very glad to hear from any county society wishing Dr. Dick to talk at a coming meeting.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. McCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

Historical Sketch of Medicine in Dubuque County Where Iowa State History First Began

IN FOUR PARTS

HENRY G. LANGWORTHY, M.D., Dubuque, Iowa

(Continued from last month)

Dr. James W. Heustis, a native of Boston, Massachusetts, after his graduation from the Harvard Medical School and two and one-half years special study in Europe in eye, ear, nose and throat diseases, practiced for four years in Pittsburgh, Pennsylvania. He came to Dubuque in 1890 to continue his special work. Four years later he married Bertha Lincoln Heustis in Washington, D. C., daughter of a former ambassador to China. He practiced eye and ear work in the city until 1912 when he moved to Los Angeles. Dr. and Mrs. Heustis were well known throughout the country, were members of many national organizations and resided at various times in Washington, D. C., and Los Angeles, California, returning to Dubuque for their permanent residence in 1927. During the World War Dr. Heustis was engaged in Red Cross work in Washington, D. C., in 1916 and later was transferred as a major in the Ophthalmologic Department in the base hospital at Camp Carney in the early months of 1918.

Finley Hospital

Finley Hospital was actually built in 1890 by the bequest of Mrs. Ellen Finley. Dr. John W. Finley had originally planned it thirty years earlier, but his untimely death prevented an immediate consummation. Mrs. Finley, in order to perpetuate the memory of her husband had, by his directions, however, made provisions in her will that the residue of her estate should be used to found a non-sectarian hospital in Dubuque to be known as Finley Hospital. In addition to the gifts of the Finleys, including Dr. Finley's personal mansion and some twenty-two acres of ground, considerable additional money was raised by public subscription and from the private funds of F. A. Rumpf, James

H. Stout, Abraham Slimmer, H. L. Stout and others. It has steadily grown in importance until its x-ray department and splendid pathologic laboratories, under Dr. F. P. McNamara's direction, are considered among the best in the state.

Dr. Harvey B. Gratiot, who was graduated from Jefferson Medical College in Philadelphia, opened his office in the city in 1899. He came from a family of physicians in Wisconsin where his father, a pioneer doctor at Shullsburg, Wisconsin, operated a private hospital for many years. Dr. Gratiot's skill as an eye and ear surgeon gained him unusual recognition and drew to his office a large clientele from all walks of life. Ranking with his ability as a surgeon were his high ethical standards in his profession and the fidelity with which he served the numerous public positions of trust which he held in the community. He has the important distinction of having fully equipped, at his own expense, the first medical laboratory in the city at Finley Hospital in 1918. Until the laboratory became self-supporting he supplied the funds to maintain the laboratory under the direction of Dr. Cora Hesselberg.

PART IV

MORE RECENT YEARS IN DUBUQUE
CONCLUDING A CENTURY OF MEDICINE IN
DUBUQUE COUNTY
1830 to 1930

In keeping with Dubuque's industrial and civic development along with that of the upper Mississippi Valley during the more recent years from 1900 to 1930, the medical work carried on by the profession in 1907, when the writer first began practice in the city, was of a high order. It was already attracting many people from the surround-

ing territory of the three states. Increasing accommodations for patients in its hospitals and asylums and talk of the necessity for the establishment of up to date laboratory and x-ray departments, to be manned by full time competent men, was in the air. Ways and means for its financing were later accomplished and such departments became an established fact. The ready accessibility of microscopic and x-ray work in the local hospitals by 1918 was a great forward step in the practice of medicine.

The year 1909 was particularly eventful in the city's medical history for the reason that the county society was host to the Iowa State Medical Society at its annual session held in Dubuque, May 19, 20 and 21. The State Society of Iowa Medical Women also met at this time on May 18 and their meeting was well attended. A state meeting is always stimulating through exchange of ideas and the meeting of outside men. It was the third time that such a state meeting had been held in the Key City, the first one having been in Dubuque on May 9, 1860, and the second on May 25, 1881. The officers and members of the Dubuque County Medical Society for the year of this third state meeting in 1909 were as follows:

Officers

President, Dr. George Allen Staples; first vice president, Dr. William Becker; second vice president, Dr. J. Irwin Limburg; secretary, Dr. H. G. Langworthy; treasurer, Dr. Lily Kinnier; delegate, Dr. W. P. Slattery; censors, Dr. I. S. Bigelow, Dr. H. B. Gratiot, and Dr. F. W. Wieland, and librarian, Dr. M. J. Moes.

Members, City of Dubuque

Dr. James Alderson	Dr. J. S. Lewis
Dr. W. L. Becker	Dr. C. M. Linehan
Dr. I. S. Bigelow	Dr. M. D. Linehan
Dr. G. Blech	Dr. C. E. Loizeaux
Dr. A. H. Blockinger	Dr. C. W. Mehlhop
Dr. O. A. Brownson	Dr. S. K. Merdanian
Dr. H. B. Gratiot	Dr. F. W. Meyers
Dr. J. H. Greene	Dr. B. Michel
Dr. J. R. Guthrie	Dr. George Minges
Dr. O. E. Haisch	Dr. M. J. Moes
Dr. C. H. Hamilton	Dr. Charles Palen
Dr. J. C. Hancock	Dr. A. M. Pond
Dr. J. B. Heles	Dr. E. L. Reinecke
Dr. J. W. Heustis	Dr. J. J. Rowan
Dr. F. J. Hilger	Dr. J. H. Schrup
Dr. J. V. Keogh	Dr. W. P. Slattery
Dr. Mary Killeen	Dr. C. Allen Snyder
Dr. Lily Kinnier	Dr. G. Allen Staples
Dr. W. H. Kinnier	Dr. H. T. Walker
Dr. H. G. Langworthy	Dr. J. M. Walker
Dr. E. R. Lewis	Dr. F. W. Wieland

Dubuque County

Dr. J. L. Abeln
New Vienna, Iowa
Dr. C. A. Kearney
Farley, Iowa
Dr. J. P. Lane
Cascade, Iowa
Dr. J. Irwin Limburg
Farley, Iowa

Dr. A. Marugg
Sherrill, Iowa
Dr. G. W. May
Cascade, Iowa
Dr. Franklin Reynor
Epworth, Iowa

Associate Members

Dr. J. E. Bready
Dr. T. H. Heffernan
Dr. R. R. Harris
Dr. Nancy M. Hill
Dr. William Watson
Chicago, Illinois

Dr. B. H. Leuhrsman
Dyersville, Iowa
Dr. R. F. Nitzche
Dr. B. J. O'Neil, Jr.

The foregoing was a goodly list of fine upstanding men comprising practically all of the reputable physicians both in the city and county. There was also published for the first time a regular monthly bulletin of the Dubuque County Medical Society, arranged and edited by the Secretary, having a wide circulation of several hundred copies monthly among the doctors of northeastern Iowa, southern Wisconsin and northern Illinois. This bulletin, in addition to presenting the society's monthly programs of considerable scientific interest, carried local personal news of the Dubuque area, meeting notices of adjoining counties and editorial comments and abstracts of the important medical topics of the day. The bulletin was paid for by selected ethical advertisements. It was the author's privilege this year also to have acted as the general secretary for the local committee of arrangements for the state meeting and to have looked after the press news for the state medical society meeting during the session.

In the World War, as during the Civil War, the profession of Dubuque responded nobly to the call and some twenty-four of its members served their country either at home or abroad during this terrible conflict. One of them, Dr. M. D. Linehan, serving in the Army Station at Columbia College, and much overworked, died at his post during the influenza epidemic of 1918 which swept through the school and over the country generally.

Diamond Jubilee in 1928

On September 19, 1928, the Dubuque County Medical Society celebrated its Diamond Jubilee of seventy-five years of existence, a notable and proud record. Eighty-three physicians in number who had died since the founding of the medical society in 1853, three-quarters of a century before, were honored in an address by Dr. James R. Guth-

rie. In memoriam the dead during this entire period were as follows:

B. G. Bassler	R. S. Lewis
C. W. Belden	J. S. Lewis
I. S. Bigelow	C. Linehan
I. S. Bigelow, Jr.	M. D. Linehan
G. Bleck	J. A. Livingston
A. H. Blocklinger	N. B. Matthews
J. M. Boothby	J. F. McCarthy
N. Bray	B. McCluer
W. Bray	J. E. McGuire
J. E. Bready	W. McKee
W. Brown	W. R. McMahon
W. J. Byrne	J. L. McNeill
J. E. Calhoun	W. H. Miller
R. Colden	H. Minges
M. E. Connelly	G. Minges
W. G. David	K. Misling
J. W. Davis	J. Mueller
E. Dorn	F. R. Nitzsche
T. O. Edwards	A. Phillips
J. W. Finley	A. M. Pond
J. W. Fowler	F. H. Pratt
S. B. Galer	F. Reynor
E. A. Guilbert	G. W. Richards
S. H. Guilbert	H. J. Rischatsch
B. Hall	P. C. Sampson
W. H. Hartford	T. Scott
J. Heffernan	W. P. Slattey
Thomas Heffernan	F. C. Smith
A. Hill	J. Sprague
Nancy Hill	G. A. Staples
W. J. Hierstein	G. M. Staples
F. Hilger	O. Stewart
H. Holt	H. A. Sumpman
A. Horr	F. Thorman
J. C. Hunter	S. A. Tremaine
E. R. Jackson	H. T. Walker
W. H. Kinnier	M. H. Walpes
E. Kirkup	W. Watson
J. T. Lambert	F. A. Weiland
J. C. Lay	A. J. Wendell
C. Lesser	W. W. Woolsey

Dr. Guthrie was selected as speaker for this occasion for the reason that since 1884, when he first began practice in Dubuque, he had known rather intimately, fifty of those members who had passed away and had first hand knowledge of the hardships and difficulties of medical practice in the years when the society was much younger. He made special mention of the fact, that "the Dubuque County Medical Society during its seventy-five years of existence has never faltered in loyalty to fundamental truths in medicine. Not only has she kept the faith in her own county but likewise in the state society. Always she has done valiant work and whenever the hydra-headed monster of medical heresy showed its head, it was met by the clarion voice of a Watson, the clear cut incisive argument of a Lewis and the overwhelming logic of W. H. Kinnier."

The officers and members of the county medical society at the time of the society's seventy-fifth Jubilee celebration in 1928 consisted of:

Officers

President, R. R. Harris; first vice president, O. E. Haisch; second vice president, F. S. Leonard; secretary, D. C. Conzett; treasurer, W. J. Connell; delegate, J. H. Schrup.

Board of Censors

Chairman, H. A. Stribley; F. S. Leonard and F. W. Meyers.

Members

Wm. L. Becker	A. M. Loes
J. J. Brownson	C. E. Loizeaux
J. H. Campbell	B. F. Luehrsmann
Walter Cary	C. C. Lytle
C. C. Coady	C. A. McGuire
W. J. Connell	F. P. McNamara
Donald C. Conzett	F. W. Meyers
W. E. Costello	Bernard Michel
G. C. Fritschel	E. F. Mueller
L. H. Fritz	A. B. Nesler
H. B. Gratiot	H. M. Pahlas
H. A. Gerbig	J. Carl Painter
J. R. Guthrie	F. P. Quinn
O. E. Haisch	E. L. Reinicke
J. C. Hancock	J. J. Rowan
R. R. Harris	M. H. Scheele
W. A. Henneger	J. H. Schrup
H. B. Hibbe	R. C. Sherman
J. V. Keogh	H. A. Stribley
Mary Killeen	E. M. Taylor
Lily Kinnier	H. E. Thompson
H. G. Langworthy	J. M. Walker
F. S. Leonard	E. H. White
Lewis Linehan	E. R. Young
Martha Link	

Honorary Member
James W. Heustis

CONCLUSION

In concluding these articles covering the medical history of Dubuque County from 1830 to 1930, a span of one hundred years, one can take stock of changed conditions. It is easy to see that many of the earlier physical hardships encountered by the pioneers have disappeared in the more advanced civilization of a machine age and specialization. Instead of practice in a crude log cabin, the profession, in the past twenty-five years, has carried on rather pleasantly in a more or less golden age of medicine. It entered a period indeed in which the illuminated towers of medical centers, costly equipment and extensive laboratories of research, have made the physician more often a guiding medical-engineer checking up the chart-reports of different scientific departments with which the patient has had forced contact. While these latter day advances have many advantages in promoting the high art of diagnosis and treatment in obscure cases, nevertheless the art of medical practice has of necessity lost much of the independent and colorful figure of the hardy frontier doctor of an earlier day.

THE END.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE CLINICAL USE OF DIGITALIS**—By Drew Luten, M.D., associate professor of clinical medicine, Washington University School of Medicine. Charles C. Thomas, Publisher, Springfield, Illinois, 1936. Price, \$3.50.
- THE DISEASES OF INFANTS AND CHILDREN**—By J. P. Crozer Griffith, M. D., emeritus professor of pediatrics, University of Pennsylvania; and A. Graeme Mitchell, M.D., professor of pediatrics, College of Medicine, University of Cincinnati. Second edition, revised and reset; 1153 pages with 293 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$10.00.
- DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN**—Edited by Robert L. Levy, M.D., professor of clinical medicine, College of Physicians and Surgeons, Columbia University. The Macmillan Company, New York, 1936. Price, \$6.00.
- ENDOCRINOLOGY: CLINICAL APPLICATION AND TREATMENT**—By August A. Werner, M.D., assistant professor of internal medicine, St. Louis University School of Medicine. Octavo of 672 pages, illustrated with 265 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.
- A HANDBOOK OF AMBULANT PROCTOLOGY**—By Charles Elton Blanchard, M.D., The Poland Study, Youngstown, Ohio. Medical Success Press, Youngstown, Ohio, 1937. Price, \$5.00.
- INTERNATIONAL CLINICS, Volume I, Forty-seventh Series**—Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia, 1937.
- THE 1936 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY**—Edited by Joseph B. DeLee, M.D., and J. P. Greenhill, M.D. The Year Book Publishers, Chicago, 1937. Price, \$2.50.
- AN INTRODUCTION TO MEDICAL SCIENCE**—By William Boyd, M.D., professor of pathology in the University of Manitoba. Octavo of 397 pages, illustrated with 108 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$3.50.
- LIGHT THERAPY**—By Frank Hammond Krusen, M.D., associate professor of physical medicine, The Mayo Foundation, University of Minnesota. Second edition, revised and enlarged. Paul B. Hoeber, New York, 1937. Price, \$3.50.
- MATERIA MEDICA, TOXICOLOGY AND PHARMACOGNOSY**—By William Mansfield, A.M., Ph.D., dean and professor of materia medica and toxicology, Union University, Albany College of Pharmacy, Albany, New York. The C. V. Mosby Company, St. Louis, 1937. Price, \$6.75.
- OPERATIVE SURGERY**—By J. Shelton Horsley, M.D., attending surgeon, St. Elizabeth's Hospital, Richmond, Virginia; and Isaac A. Bigger, M.D., professor of surgery, Medical College of Virginia. In two volumes. C. V. Mosby Company, St. Louis, 1937. Price, \$15.00 per set.
- THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE**—By Charles H. Best, M.D., and Norman B. Taylor. William Wood & Company, Baltimore, 1937. Price, \$10.00.
- THE SOCIAL COMPONENT IN MEDICAL CARE**—A Study of one hundred cases from the Presbyterian Hospital in the city of New York. By Janet Thornton, director, Social Service Department. Columbia University Press, New York, 1937. Price, \$3.00.
- THE 1936 YEAR BOOK OF GENERAL THERAPEUTICS**—Edited by Bernard Fantus, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois College of Medicine. The Year Book Publishers, Chicago, 1937. Price, \$2.50.

BOOK REVIEWS

APPLIED DIETETICS

By Sanford Blum, M.D., head of the department of pediatrics, San Francisco Polyclinic and Postgraduate School. F. A. Davis Company, Philadelphia, 1936. Price, \$4.75.

This text is devoted to detailed diet lists. Part I includes a dietary for adults in health and disease; a specific diet is prescribed for every malady from acidosis to ulcer. Part II presents diets for infants and children and one is impressed with the antiquity of much of the material. This reviewer sees no occasion for the publication of such a book. D.H.K.

prostatic resection, and perinephritic infection, which receive excellent attention. Excretory urography, cryptorchism, and the evaluation of various surgical technics comprise a few of the many subjects considered. The newer methods employed in the treatment of gonorrhea are evaluated. Literature concerning bladder tumors containing the five year end-results from the register of the American Urological Association and many other subjects of interest make up this volume. D.H.K.

THE 1936 YEARBOOK OF UROLOGY

Edited by John Cunningham, M.D., associate in genito-urinary surgery, Harvard University Postgraduate School of Medicine. The Year Book Publishers, Chicago, 1936. Price, \$2.50.

This condensation of the year's urologic literature contains much of special interest concerning many fields of urology. Important articles have been abstracted and arranged for easy reference, including papers on recurrent stone, transurethral

SYNOPSIS OF DISEASES OF THE HEART AND ARTERIES

By George R. Herrmann, M. D., professor of clinical medicine, University of Texas. With 88 text illustrations. The C. V. Mosby Company, St. Louis, Missouri, 1936. Price, \$4.00.

This book is a surprise package. It is difficult to see how any person can get so much accurate and practical information into one single small volume. It is delightfully written, the information is correct, and it is absolutely up to date. Would that all text books were as brief, as clear, and as accurate as this one. This volume has been especially designed for the general practitioner. D.J.G.

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of the

Iowa State Medical Society

VOL. XXVII

DES MOINES, MAY, 1937

No. 5

SURGICAL TREATMENT OF HEAD INJURIES

WALTER D. ABBOTT, M.D., F.A.C.S., Des Moines

The increasing frequency of head injuries, particularly on the highway, is mounting each day and treatment must be directed primarily toward shock. It is far better to take the patient to a nearby farmhouse and treat him for shock than to rush him over a long distance to a hospital. All people suffering from head injuries are primarily in the state of shock and should be treated for this condition. Assuming that the patient is brought to the hospital, instead of wasting time taking x-ray pictures and allowing internes to practice suturing of a badly lacerated scalp, the patient should be placed in bed with external heat applied to the body and the head of the bed elevated. One hundred cubic centimeters of twenty per cent glucose should be administered intravenously; ice bags should be placed at the patient's head and a careful recording of blood pressure, temperature, pulse and respiration should be made every fifteen minutes. The fluctuations in these readings will decide the further treatment.

Considering the blood pressure, little attention is paid to a systolic pressure remaining above 85 or below 175 millimeters of mercury. However, the diastolic pressure is of extreme importance, as a pressure below 60 millimeters of mercury is deficient in oxygen, so that there is not an adequate distribution to the tissues, and recent investigations have clearly demonstrated that a pressure of 40 or below is devoid of oxygen with the result of anoxemia, tissue death and demise of the patient. The blood pressure may be supported by the administration of one-half of a cubic centimeter of surgical pituitrin every thirty minutes as indicated.

The pulse in shock is weak and thready. However, if the pulse remains above 120 as the patient emerges from shock, it is an indication of a demand for more fluid volume, and this must be supplied intravenously, either in the form of hypertonic glucose, saline or, if necessary, blood

transfusion. A pulse of 60 or below is indicative of cerebral edema with compression of the medulla, and this must be combated with the administration of hypertonic fluids intravenously, or magnesium sulphate by bowel or mouth and spinal drainage.

The respirations are stated to be the veritable barometer of life itself and respirations of 40 or more indicate an imbalance of the oxygen and carbon dioxide mechanism. Often patients in apparently hopeless conditions, breathing 40 to 60 times a minute, have been saved by placing a wet towel in the form of a cone over the nose and mouth, allowing the patient to re-breathe his own carbon dioxide and thus re-establish the respiratory mechanism. A respiration of 16 or below is indicative of medullary compression and must be combated by the means outlined above.

In shock the temperature is subnormal; but a temperature rising rapidly above 102 is an ill omen and also is indicative of compression of the medulla. This must be met by the placing of ice bags to the axilla and groin, tepid sponge baths, cold enemas and spinal drainage.

When the patient is first admitted to the hospital, careful but hurried appraisal is made of the entire body, and associated injuries should not be neglected. For instance, a compound fracture may be placed in the optimum position and a splint applied temporarily, as reduction of the fracture can be carried out to a greater advantage when the patient is in better condition. Scalp lacerations are usually controlled with compression bandages. However, a bleeding artery can easily be ligated, but it is better to defer suturing of the scalp until the patient is in better condition, wherein a more detailed approximation of the jagged wound and careful debridement can be carried out to much better advantage. It is obvious that antitetanic serum should be administered after the patient has been carefully tested for sensitivity.

As the patient emerges from shock, the skull is carefully palpated, and note should be taken of

the presence or absence of a depression. One must not be lead into an erroneous diagnosis of depressed skull fracture by merely feeling a drop off on palpation, because this may be the result of hemorrhage under the galea and no operation for depressed fracture of the skull should be carried out until corroboration is afforded by the use of the x-ray. The condition of the pupils is of extreme importance. Providing that on admittance the pupils are equal, then one pupil becomes dilated, that is a warning sign of hemorrhage on that side of the brain, and often is the first indication of the development of middle meningeal hemorrhage, which may be followed in a few hours with the development of a contralateral hemiplegia. Pressure on the supra-orbital notch will cause a reflex contraction of the face and the homolateral arm and is of value in detecting an early paralysis. The reflexes should be carefully taken and noted. Any changes in the reflexes, such as exaggeration, may be an indication of oncoming paralysis and a positive Babinski reflex is indicative of pyramidal tract or motor pathway involvement. Abdominal reflexes, particularly in a young person, are of value, and when absent are indicative of pyramidal tract involvement, as are the cremaster reflexes in the male. Associated injuries of the chest and abdomen must be met with careful and deliberate judgment, for sometimes a ruptured viscus, such as spleen or liver, comes nearer to jeopardizing the patient's life than the skull injury itself. There is no hard and fast rule for treating head injuries, since each patient presents an individual problem. Many of these patients become extremely restless but morphine should never be administered, because it is a respiratory depressant. Restlessness and pain can be controlled by the administration of codeine, chloral hydrate and bromides, or the barbiturates. Fluids should always be restricted to a maximum of 1,500 cubic centimeters per twenty-four hours.

After the patient has definitely emerged from shock, preferably on the following day, he may be safely transported to the x-ray room and pictures may be taken. This should be done in all cases for the protection of the patient, the physician and the hospital.

Many a fracture of the skull in itself demands no surgical treatment, but is an indication of severe trauma to the head and should lead one to keep the patient in bed for a minimum of three weeks. Only compound fractures, which are apparent grossly, and depressed fractures, involving both tables of the skull, justify surgical exploration. Even if the depressed fracture is in a so-

called silent area of the brain, it should be elevated because scarring and damage to the cortex underneath may ensue, and following that there may be the dreaded posttraumatic epilepsy. Very few patients suffering from head injury need surgical treatment; the majority of them can be cared for with the careful administration of glucose intravenously and magnesium sulphate when the patient is out of shock. As this drug has a tendency to deplete the blood stream rapidly, it should not be given until the patient has recovered from shock. In the unconscious patient, one may administer three ounces of magnesium sulphate in four ounces of water as a retention enema with gratifying results. This may be repeated every twelve hours for three days without producing any local irritation.

Although there is some difference of opinion regarding the use of spinal puncture, I feel that spinal puncture is of value from both a diagnostic and a therapeutic standpoint. There is no danger in performing a spinal puncture provided careful manometric studies are carried out. If there is gross blood in the cerebrospinal fluid, it is a definite contraindication for any surgical procedure at the time. When there is gross blood in the cerebrospinal fluid, the initial pressure should be reduced one-half. Let us say that the pressure, which is eight to ten centimeters in a normal person, has risen to thirty or forty centimeters, fluid is withdrawn until the pressure drops to twenty. This may be repeated every four, six, eight or twelve hours as the fluctuations in the blood pressure, pulse, temperature and respirations indicate.

Let us now consider the treatment of compound fractures of the skull. It is a matter of judgment whether or not the patient should be submitted to surgery, since it is quite obvious in some massive cases of brain injury, with the brain tissue exuding from the skull and the patient in a moribund condition, that operation is a futile and hopeless gesture. Let us assume, however, that the patient has a compound fracture which does not appear to have damaged the brain too extensively. In these cases the procedure of choice must be determined by the type of fracture and its location. If there is not too much debris in the wound and the bone is not too badly splintered, a flap may be turned around the wound after the skin has been carefully scrubbed with soap and water and cleansed with the usual germicide. The fracture may then be reduced from the underside of the flap with the fingers and the flap placed back into place after it is sutured through small drill holes as shown in Figures 1 to 6.



Fig. 1. Illustrates incision made around compound depressed fracture of the skull.

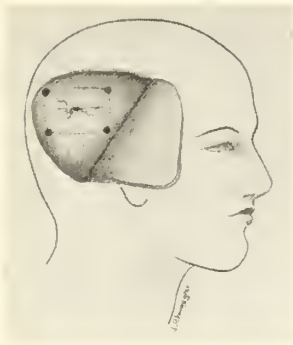


Fig. 2. Illustrates skin flap reflected and trephine openings made around depressed fragment of skull so that entire block may be removed.

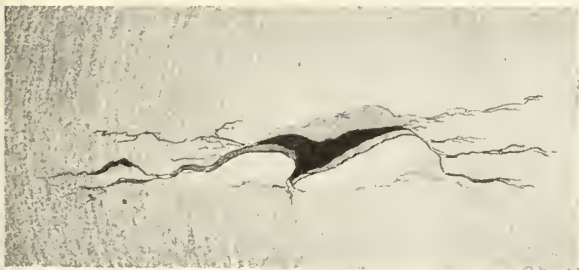


Fig. 3. Reveals bone removed in block, depressed fragment on mesial surface.



Fig. 4. Illustrates fracture reduced with fingers on mesial surface.



Fig. 5. Illustrates reduced block of fracture replaced and bone tied with silk sutures.



Fig. 6. Roentgenogram taken one year after reduction of fracture, illustrating bone flap in place and healed process.

However, there is frequently so much debris and splintering of the bone, that the bone must be removed piecemeal with a rongeur. Then an inspection of the brain should be made and, if the dura has been torn, it should be opened more widely and the lacerated brain tissue removed. Bleeding can be controlled with the electrosurgical unit or silver clips. The wound should be irrigated gently with saline solution and a drain inserted for twenty-four hours. The drain will avoid the collection of fluid which is a fertile field for infection. The technic of this procedure is shown in Figures 7, 8 and 9.

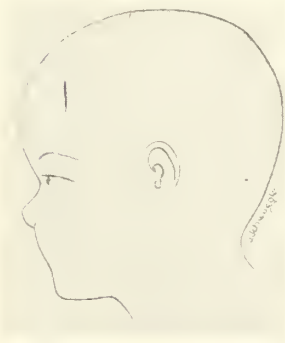


Fig. 7. Illustrates incision around compound depressed fracture in which there has been a large amount of debris in the wound.

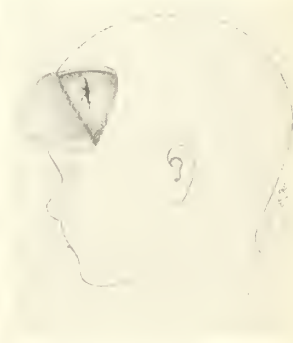


Fig. 8. Skin flap reflected illustrating marked depression and splintering of bone fragment.



Fig. 9. Splinters of bone removed so that edges are smooth. Tear in dura and blood clot below is illustrated.

Elevation of depressed fractures is usually best effected by turning a flap and elevating the fracture, as it is difficult to elevate the fracture with the hook and be sure that a clot underneath is not overlooked. The dura should be inspected to see if there is any bleeding underneath and complete debridement must be carried out. When the bone has to be sacrificed and there is a defect, particularly in the frontal region or over the motor area, it is well to anticipate, at a later date, a plan of

closure. This should not be undertaken until all chances of infection developing have abated, which means a waiting period of six to eight months. Assuming that there is no sign of local irritation in the form of drainage and that the x-ray shows the bone to be healthy, a sliding graft of the outer table of the adjacent sound skull may be carried out as shown in Figures 10, 11, 12 and 13.



Fig. 10. Illustrates outer layer of adjacent sound skull being slid over to cover defect above.

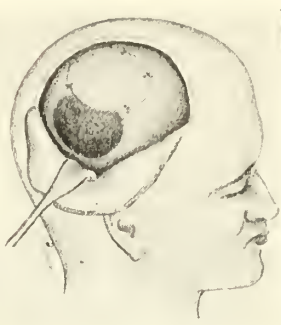


Fig. 11. Illustrates sliding bone graft tied in place.



Fig. 12. Illustrates defect over motor region of skull following removal of splintered fragment as a result of compound depressed fracture.

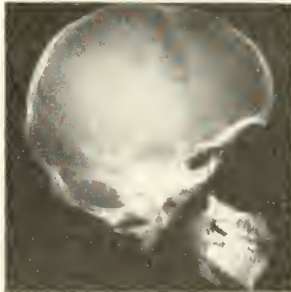


Fig. 13. Roentgenogram taken one year after sliding bone graft showing defect of the skull filled in with bone tissue taken from the adjacent sound area.

The other surgical indications of head injuries are for localized hemorrhage. The classical syndrome of middle meningeal hemorrhage has been described above. Briefly it consists of coma, a lucid interval, dilatation of the pupil on the side of the hemorrhage and loss of consciousness, and the development of a contralateral hemiplegia. This is truly a surgical emergency, but seldom do the signs ensue until the patient has recovered from shock and usually they do not manifest themselves for two to seven hours following the initial coma. The technic for combating this condition is to make a linear incision in the temporal region, retract the muscles and rongeur away a small area of bone. The clot may be evacuated and the bleeding artery controlled with the electro-surgical unit or ligation. If the fracture has

torn the artery as it emerges through the floor of the skull at the foramen spinosum, this may be packed with bone wax and the bleeding controlled satisfactorily.

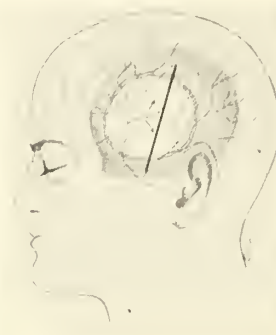


Fig. 14. Illustrates incision and the amount of bone removed with rongeur to expose clot from bleeding middle meningeal artery. Arrows indicate direction in which bleeding may occur.

This illustration is taken from Dandy, Lewis' System of Surgery, Vol. xii, Chapter 1, page 283.

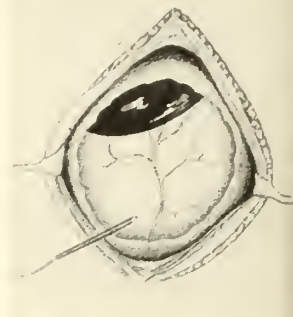


Fig. 15. Illustrates control of hemorrhage from middle meningeal artery with electro-surgical unit. Also clot shown in lower margin of wound.

This illustration also is taken from Dandy, Lewis' System of Surgery, Vol. xii, Chapter 1, page 283.

The other type of localized hemorrhage is subdural hematoma, which is the result of rupture of small veins beneath the dura and spreading of a clot of blood over the cerebral hemisphere. The signs of this condition do not usually manifest themselves until sometime after injury and, as 46 per cent of the cases are bilateral, it is well to make a trephine opening in each temporal region to avoid overlooking a clot. Subtemporal decompression is mentioned only to be condemned. In the three instances in which I have performed subtemporal decompression, three patients died. If one is not able to reduce the edema of the brain by intravenous injections of hypertonic fluids, magnesium sulphate by bowel and frequent spinal drainage, the patient's life will not be saved by performing a decompression of a small area of the skull, and it is only conducive to further surgical mortality.

A review of 355 consecutive cases of serious head injury is presented.

TABLE I
Review of 355 cases

Dead		86	23.2%
Concussion	180		50.7%
Proved Skull Fracture	175		49.9
Linear	65		
Basal	64		
Depressed	8		
Compound	38		
Bloody Spinal Fluid	299		84.2%

It will be noted in Table I that 50.7 per cent are listed as cerebral concussion. This group had a loss of consciousness, clear or blood tinged cerebrospinal fluid and no demonstrable evidence of fracture.

TABLE II

Surgical Cases	77	21.6%
Surgical Mortality.....	30	38.9%
Middle Meningeal Hemorrhage.....	9	
Subdural Hematoma.....	26	
Subtemporal Decompression.....	3	
Compound Skull Fracture.....	24	
Depressed Skull Fracture.....	7	
Osteomyelitis of Skull.....	3	
Plastic Skull Graft.....	5	

The high percentage of operative cases, as shown in Table II, can only be explained on the basis that, in many instances, the patients were referred to me for surgery. Our efforts directed toward the reduction of mortality in head injuries must be based upon a sound understanding of the physiology of the circulation of the brain. The circulation of the blood and cerebrospinal fluid in a closed cavity can easily be displaced, but with careful adherence to the principles of hydrodynamics and appreciation of the physiology of the brain, we will be able to reduce this appalling mortality even further.

SUMMARY

Patients suffering from a severe head injury are always in the state of shock and should be treated primarily for this condition. Associated injuries must not be neglected and these must be considered carefully, since each individual patient presents an individual problem which can only be handled satisfactorily by deliberate and careful judgment based upon experience. Compound fractures of the skull, depressed fractures of both tables of the skull and localized hemorrhage, either middle meningeal or subdural hematoma, are the only types of head injury which warrant surgical intervention.

THE HEART THROUGHOUT THE VARIOUS PERIODS OF LIFE

FREDRICK A. WILLIUS, M.D.
Division of Medicine, The Mayo Clinic
Rochester, Minnesota

The old biblical prediction as to the span of human life, namely, three score years and ten, is fulfilled for only a relatively small group of the populace. While the average expectation of life today is said to be approximately fifty-seven years, some leading actuaries,^{1 and 2} have established sixty-five years as the optimal expectation.

It is not difficult to be aware of the many perils that exist in the form of diseases and acci-

dents that persistently conspire to interrupt the life of man prematurely; these facts receive constant emphasis. Relatively little thought however, is accorded the factors that influence longevity, and one of the dominant considerations bearing on longevity deals with the sustained integrity of the cardiovascular system.

We are not inclined, I believe, to appreciate fully the marvelous endowment and the remarkable performance of the normal, human heart. It is the most dynamic organ of the body and one that successively repeats its function with only fleeting periods of rest. The propulsion of blood into the remote parts of the body requires great force and repeated effort. The magnitude of such requirements may be realized when certain simple computations are employed. When calculations are based on a span of sixty-five years, and on the presumption that the average rate of the heart during this period, including periods of complete rest, and of moderate and strenuous activity, is 75 beats each minute, one may be astonished to find that the heart has beat 153,739, 000,-000 times. To this figure may be added the computed number of beats occurring in fetal life. The actual amount of work performed by the heart during these years may be estimated at approximately 450,775,000 kilogram-meters³. I believe it can truthfully be stated that no machine built by man can even approximate this uninterrupted and sustained activity.

The heart differs greatly from the other muscular organs of the body, and these differences undoubtedly determine its ability to perform so effectively the demands imposed upon it for such long periods of time. Its architectural complexity, its rapid and effective metabolic exchange, and its widespread circulation are, without doubt, predominating factors in its almost tireless performance.

It is my intention to consider the heart in relation to the ten decades of life and to record the incidence of its major diseases and their modifying influence on longevity as derived from a study of material at The Mayo Clinic. As stated in previous publications, attention must be called to the fact that the analyses of groups of clinical cases reported from various localities and from different types of practice may not be at all comparable. Thus, in a clinic where many patients come from far distant communities, certain age periods may not be proportionately represented. This refers particularly to the first and the later decades of life. Furthermore, the incidence of certain forms of heart disease varies according to geographic location.

This study is based on 3,418 cases, in 60 per

TABLE I
Mathematical probability of patients with heart disease having one of eight forms of heart disease (based on 3,418 cases)*

Forms of heart disease	Age, periods, years									
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Coronary	1/83		1/23	1/8	1/4	1/3	1/2	1/2	1/3	1/6
Hypertensive		1/21	1/23	1/9	1/4.5	1/3	1/3	1/3	1/2	1/1.2
Rheumatic	1/2	1/1.4	1/1.3	1/1.6	1/3	1/6	1/31	1/29		
Syphilitic cardiovascular	1/42	1/53	1/30	1/14	1/12	1/11	1/19	1/144		
Adiposity of the heart	1/83	1/53	1/69	1/68	1/50	1/28	1/52	1/144		
Chronic adherent pericarditis	1/83	1/105	1/104	1/113	1/109	1/82	1/93	1/144	1/75	
Calcareous aortic stenosis			1/208	1/339	1/218	1/82	1/60	1/48	1/75	
Congenital	1/4	1/5	1/16	1/31	1/328	1/818	1/836	1/287		

*Example: If a man whose age falls within the decade 60 to 69 years, has heart disease, the chances of the condition being coronary disease is as one to two, whereas the chance of the condition being congenital heart disease is only one to 836.

cent of which postmortem examinations were conducted. The eight principal forms of heart disease are presented; namely, coronary disease, hypertensive heart disease, rheumatic heart disease, syphilitic cardiovascular disease, adiposity of the heart, chronic adherent pericarditis, calcareous aortic stenosis, and congenital heart disease.

A few words of explanation regarding this classification of disease are desirable to indicate that cases of angina pectoris and coronary thrombosis are included under the caption of coronary disease, that the cases of adherent pericarditis appearing to result from rheumatic fever are incorporated among the cases of rheumatic heart disease, and that calcareous aortic stenosis has been accorded a separate classification owing to the fact that its supposed rheumatic etiology is controversial. Congenital heart disease comprises only significant anomalies; minor defects in no way embarrassing the heart were excluded. Subacute bacterial endocarditis is considered in this study as a complication of other forms of heart disease, particularly the rheumatic type, and is therefore not considered separately. Likewise, the heart in hyperthyroidism is not recorded, owing to its usual coexistence with other forms of heart disease and the difficulty encountered in a study of incidence to select accurately the pure cases.

In any study dealing with the incidence of heart disease an important, yet unavoidable, error enters into the computations. This error results from the fact that heart disease so frequently comprises more than one type of lesion, and more than one etiologic process participates in the resulting damage. For instance, the prevailing frequency of hypertension in the middle and later age periods

becomes a superimposed influence on any and all forms of heart disease and obviously modifies the existent disturbance in physiology, the clinical phenomena, and the course of the disease. This is but one example of many that could be cited.

The analysis of this group of cases reveals the fact that the greatest incidence of heart disease occurs in the fifth, sixth, and seventh decades, that is, between the ages of forty and seventy years. (See Table I.) Prior to this period the incidence gradually but progressively increases from infancy and childhood to early adult life. The peak is reached in the seventh decade and in the succeeding three decades the drop in incidence is extremely abrupt. The explanation for this sudden decline becomes obvious when the fact is realized that the majority of patients with heart disease have succumbed, leaving only a relatively small group of survivors whose ranks become somewhat augmented by others who become afflicted with heart disease late in life. Furthermore, the latter decades of life represent relatively few individuals. This observation is confirmed in one of my previous publications dealing with the heart in old age.⁴ In this study, which dealt with 700 patients who were seventy-five years of age or older, only 55 per cent had clinical signs and symptoms justifying the diagnosis of cardiac disease and only twelve per cent presented the syndrome of congestive heart failure. In a later study by Willis and Smith, which comprised 381 patients who were seventy years or more of age, necropsy revealed the amazing fact that only 12.6 per cent had died of heart disease. These studies led us to conclude that the majority of aged patients, even in the presence of heart disease, possessed hearts of unusual integrity, for

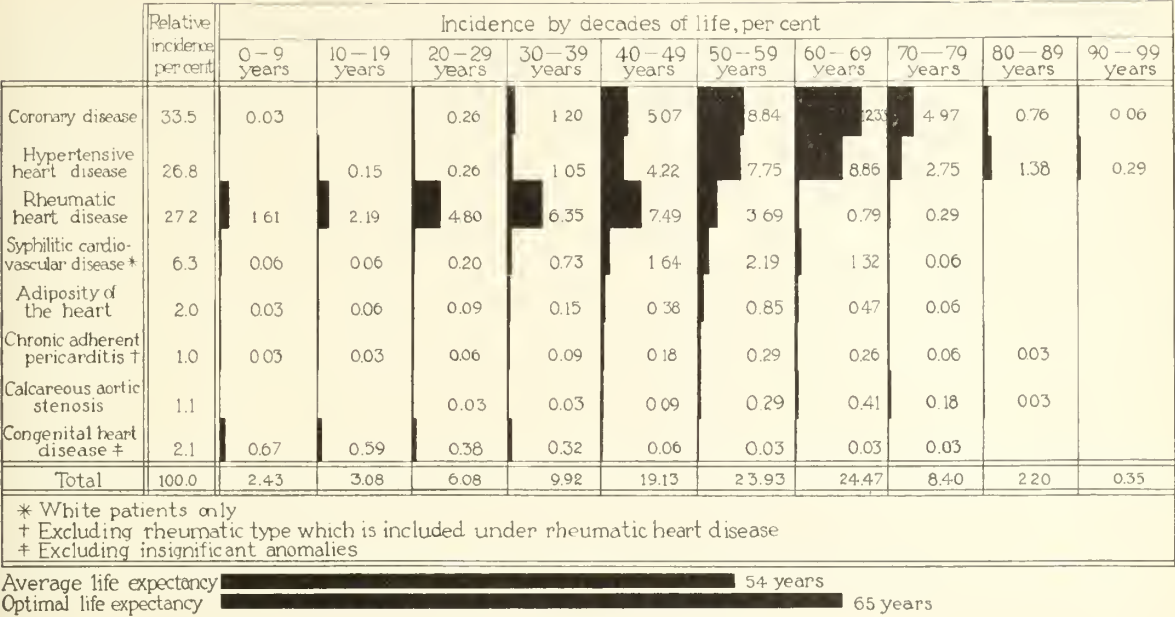


Fig. 1. Relative incidence of heart disease.

the heart, impaired or unimpaired by disease, that permits the continuation of life beyond the seventieth year, is an organ of unusual quality.

Coronary disease clearly outranked all other forms of heart disease in this group of cases, occurring in 33.5 per cent. (See Figure I.) It occurred with greatest frequency in the sixth and seventh decades, in which it affected 21.17 per cent of the complete group. Coronary disease was likewise an important consideration in the fifth and the eighth decades, in which the incidence was 5.07 and 4.97 per cent, respectively. There was an incidence of 1.2 per cent in the fourth decade, which appears trivial when compared to the occurrence in the four succeeding age periods, but in reality it is an alarmingly high incidence when the relative youth of this group of patients is realized.

Hypertensive heart disease occurred in 26.8 per cent of the total series and, in general, followed an age distribution comparable to that of coronary disease. However, in the ninth and the tenth decades, it markedly superseded coronary disease. This fact finds confirmation in a previous study⁵ of aged patients as varying degrees of hypertension occurred in 70.3 per cent of the cases.

Rheumatic heart disease, which occurred in 27.2 per cent of the cases, was an important consideration in the first six decades of life; it occurred with greatest frequency between the ages of twenty and sixty years. The predominance of cases in the middle decades of this material is probably to a large extent dependent on the fact

that many patients have not survived to reach this period of life and that many individuals reaching middle life had minimal lesions that progressed slowly and permitted cardiac adequacy to be maintained for relatively long periods of time. Its only casual occurrence after the sixth decade is well recognized.

The incidence of cardiovascular syphilis is 6.3 per cent and reaches its peak in the sixth decade of life. In this study it occurred in 2.19 per cent of the cases. While being definitely subordinated by the three preceding forms of heart disease it was of chief concern between the ages of thirty and seventy years. It occurred very occasionally in the first three decades, and was not recorded in the ninth and tenth decades.

Adiposity of the heart (two per cent) occurred with greatest frequency in the sixth decade and only occasionally occurred in the other age periods up to the age of eighty years.

Chronic adherent pericarditis (nonrheumatic), which occurred in one per cent of the cases, was evident with greatest frequency in the sixth and seventh decades.

Calcareous aortic stenosis, which occurred in 1.1 per cent of the cases, was not observed during childhood and adolescence, but occurred chiefly in the sixth, seventh, and eighth decades of life.

Congenital heart disease clearly followed its well-known incidence, 2.1 per cent, and occurred predominantly in the first two decades. Its incidence gradually tapered off until the ninth decade was reached.

A consideration of the etiologic problems of heart disease is clearly beyond the scope of this paper with the exception of the mention of the striking familial tendency that appears to prevail, particularly in coronary disease and in hypertensive heart disease. Scientific data on this question are still woefully meager, but one who is in constant contact with large numbers of patients suffering from heart disease cannot avoid being impressed by the apparent hereditary tendency in many cases. With heart disease on the increase in this country and because of the more frequent occurrence of coronary disease and hypertensive heart disease in the earlier decades of life, the problem of hereditary predisposition becomes a very pertinent question.

It may be of interest to consider the heart in each of the decades of life and to record its relative hazards to disease as recorded by this study.

The First Decade. In the first decade of life the presence of a cardiac lesion, according to this analysis, would favor its rheumatic origin by a probability of one to two, while the chance that it was a congenital defect would be one to four. The chance of coronary disease, adiposity of the heart, and chronic adherent pericarditis would be one to 83, and the chance of cardiovascular disease of syphilitic origin would be one to 42. It is thus evident that even in the age period in which congenital heart disease occurs with greatest frequency its incidence is greatly outranked by acquired disease, and that rheumatic heart disease predominates.

The Second Decade. Rheumatic heart disease, as in the first decade, is the outstanding hazard of this age period, the probability being one to 1.4. The probability of congenital heart disease is one to five, while hypertensive heart disease presents the ratio of one to 21. Syphilitic cardiovascular disease and adiposity of the heart are more remote perils of this age, the probability chance being only one to 53, while the chance for the development of chronic adherent pericarditis is only one to 105. Rheumatic heart disease is also, and to a greater degree, the outstanding menace in this age period.

The Third Decade. The greatest incidence of rheumatic heart disease occurred in this age group, the ratio of chance is one to 1.3, and while congenital heart disease ranked second, its probability is only one to 16. The chance of coronary disease and hypertensive heart disease is one to 23. The probability of the other forms of heart disease is considerably less; for syphilitic cardiovascular disease the chance is one to 30, for adiposity of the heart it is one to 69, for chronic

adherent pericarditis it is one to 104, and for calcareous aortic stenosis it is one to 208. Thus the third decade is overwhelmingly fraught by the dangers of rheumatic heart disease.

The Fourth Decade. Rheumatic heart disease continues to hold sway in this age group, the probability ratio being one to two. However, coronary disease and hypertensive heart disease begin to assert themselves; for the former the chance is one to eight, and for the latter it is one to nine. Likewise, syphilitic cardiovascular disease becomes of greater importance, the chance being one to fourteen, while the chance of congenital heart disease is reduced to one to 31. Other forms of heart disease occur as follows: for adiposity of the heart the chance is one to 68, for chronic adherent pericarditis it is one to 113, and for calcareous aortic stenosis it is one to 339.

The Fifth Decade. In this study, rheumatic heart disease continued to hold its lead over the other diseases in the fifth decade of life, although it is probable that in other series of cases this position might not be maintained. The chance of its occurrence was one to three. A distinct increase in the probability of coronary disease and hypertensive heart disease occurred, and the chance of these diseases was almost identical, being one to four and one to 4.5, respectively. The chance of syphilitic cardiovascular disease mounted to one to twelve and that of adiposity of the heart was one to 50. The probability of congenital heart disease was reduced to one to 328. The chance of chronic adherent pericarditis was one to 109, and that of calcareous aortic stenosis was one to 218.

The Sixth Decade. In this age period one finds an equal but a greatly increased hazard from coronary disease and hypertensive heart disease, the possibility of these diseases being one to three. Rheumatic heart disease still remains a pertinent problem but its chance of occurrence is reduced to one to six. Syphilitic heart disease parallels its occurrence in the preceding decade; the chance in this decade is one to eleven. Adiposity of the heart assumes its greatest incidence in this age period but the chance is only one to 28. The chance of chronic adherent pericarditis and calcareous aortic stenosis is one to 82. The chance of congenital heart disease is reduced to a ratio of one to 818.

The Seventh Decade. With the approach of the closing periods of life coronary disease and hypertensive heart disease clearly predominate. In this decade the chance of coronary disease is one to two, while that of hypertensive heart disease is one to three. Syphilitic cardiovascular dis-

ease continues to be important, and the chance is one to 19. The probability of rheumatic heart disease is greatly reduced, the chance being one to 31. The chance for adiposity of the heart occurring is one to 52; for calcareous aortic stenosis, one to 60; and for chronic adherent pericarditis, one to 93. The chance of congenital heart disease becomes submerged to only one to 836.

The Eighth Decade. The chances for coronary disease and hypertensive heart disease are identical to those in the preceding decade, one to two and one to three, respectively. The chance for the occurrence of rheumatic heart disease is one to 29. Calcareous aortic stenosis reaches its maximal incidence here, the chances for its occurrence being one to 48. The chances of syphilitic cardiovascular disease, adiposity of the heart, and chronic adherent pericarditis are one to 144. The chance of congenital heart disease is only one to 287.

The Ninth Decade. Only four types of cardiopathy occurred in this advanced age period. Coronary disease and hypertensive heart disease again predominated but their order of prominence was reversed; the chance of coronary disease was one to three, and that of hypertensive heart disease was one to two. The chances for chronic adherent pericarditis and calcareous aortic stenosis were the same, namely, one to 75.

The Tenth Decade. Coronary disease and hypertensive heart disease were the only types represented in this unusual age period. The chance for hypertensive heart disease to occur was one to 1.2, while that for coronary disease was one to six.

SUMMARY

The results of this study, which comprises a group of 3,418 cases of heart disease, justify certain conclusions. The statistical data, however, may quantitatively vary from other groups of cases selected in other localities and under different conditions of medical practice. The eight principal forms of heart disease have been included and the reasons motivating the exclusion of other forms have been presented.

The relative incidence of the various forms of cardiopathy were as follows: coronary disease, 33.5 per cent; hypertensive heart disease, 26.8 per cent; rheumatic heart disease, 27.2 per cent; syphilitic cardiovascular disease, 6.3 per cent; adiposity of the heart, two per cent; chronic adherent pericarditis (non-rheumatic), one per cent; calcareous aortic stenosis, 1.1 per cent; and congenital heart disease, 2.1 per cent.

The greatest incidence of heart disease occurred in the fifth, sixth, and seventh decades of

life, and in 67.5 per cent of the cases the patients belonged to these three age periods.

The chances that a patient will have one of the various forms of heart disease are considered in relation to the individual decades of life.

The heart, in the journey through life, is at all times subjected to the perils of disease. These perils vary in character and in magnitude, according to the age of the individual. The heart that has escaped the ravages of disease and has withstood the stresses and strains of active life is one fundamentally endowed with superior qualities. Confirmation of this fact is found in the progressively decreasing incidence of heart disease in the closing periods of life and the consequent diminishing death rate from this cause. As previously emphasized, this tapering incidence also is greatly influenced by the already depleted ranks of aged individuals as the result of many other diseases. Nevertheless, the fact that the occurrence of heart disease in the last two decades of life is less than that in the first two decades is not without significance.

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NOTES ON SYPHILIS IN CHILDREN*

MARK W. DICK, M.D., Iowa City

The program of the State Department of Health for the control of syphilis is in progress. Many children with syphilis will be discovered and seek medical care. An understanding of certain aspects of syphilis in children is a requisite to adequate treatment.

COMPARATIVE INCIDENCE

The incidence of syphilis in children depends upon syphilis in the adult, since the amount of acquired syphilis in childhood, from a statistical point of view, is negligible. Studies of the incidence in adults have dealt with selected groups rather than with true cross-sections of the population, thus making interpretation difficult and their value questionable. Apparently the greatest frequency of syphilis is found at the lower economic levels. In the strata of society applying to hospital clinics for medical relief, approximately twenty per cent of the men have syphilis. Syphilitic men may be treated and cured before

*From the Department of Pediatrics, College of Medicine, State University of Iowa.

marriage, or their infection may become so latent that their wives are not infected. Approximately ten per cent of the pregnant women of the dispensary class have syphilis. Not all syphilitic women have syphilitic offspring. Approximately two to 3.5 per cent of the children attending hospital clinics are reported as having syphilis. When this group of clinic children is considered according to age it is found that five per cent under two years of age have syphilis, and beyond two years of age the incidence is 1.5 per cent. Obviously these incidence figures cannot be applied generally, although they illustrate the relative proportions between men, women and children. They apply only to the white race, since the incidence of syphilis among negroes is several times higher. Syphilis is relatively uncommon in women at any social level until marriage. In the majority of instances the infection is brought into the family by the adult male member, infection of the wife follows, and she in turn transmits the infection to her children. An incidence of approximately one per cent has been estimated among young men of the better class. If the same incidence relations hold, the children of this class would show a proportion of 0.25 per cent with syphilis.

TRANSMISSION

It is necessary for the mother to have syphilis in order that the infection be transmitted to the infant before birth. Direct paternal transmission to the ovum without infection of the mother is based on logical evidence only if one considers clinical observations and disregards laboratory diagnostic procedures. In many instances there are fathers who are known to have the disease while the mothers give no history, show no signs or symptoms and remain free from evidences of disease in afterlife, yet give birth to syphilitic children. Despite the lack of symptoms or clinical signs, laboratory evidence is to the effect that mothers of syphilitic children have syphilis. Over 85 per cent of the mothers of syphilitic children have positive Wassermann reactions, and when mothers are excluded whose last syphilitic child is beyond infancy the proportion of positive reactions approaches 100 per cent. It is an established fact that in general, syphilis deals more kindly with women than with men, and especially is this true with married women. The more active the infection in the mother, the more likely is it to be transmitted to her offspring. With the lapse of time, the infection may become so latent that it is not transmitted. There is a decreasing severity of infection of the babies of syphilitic women until finally, with or without treatment of the mother, a normal uninfected child may be

born. The differences of transmission noted in plural marriages are often accounted for on this basis. If the mother's Wassermann reaction is moderately or more strongly positive, the chances are more than 70 per cent that the child will be infected. If the mother has a weakly positive Wassermann reaction, the chances are nearly 90 per cent against the child's being syphilitic. Although it is not frequent, it is entirely possible for a syphilitic infant to be born to a mother with a negative Wassermann reaction. Single ovum twins always share the same fate; either both escape or both are infected. Double ovum twins may be expected to have the same fate as would two successive pregnancies; either, neither or both may be infected.

The age of the infection in the mother is a factor not only in determining whether or not her child is likely to be syphilitic, but also in the amount of treatment necessary to prevent transmission to the fetus. The treatment of pregnant syphilitic women will result in the birth of a non-syphilitic infant in almost all instances. It is agreed that pregnant women tolerate syphilitic treatment as well as, or better than, nonpregnant women. A negative Wassermann reaction in a syphilitic woman is not always a criterion for assurance that the infant will not be infected, unless the negative reaction is the result of a suitable period of thorough treatment. Treatment of a mother will not eliminate the disease in a fetus already infected, though such treatment should ameliorate the effects. Treatment through one pregnancy, if a cure has not been effected, does not protect the product of succeeding pregnancies.

DIAGNOSIS

The diagnosis of syphilis may be made on the basis of clinical observations or laboratory procedures of the individual under consideration. It should not depend upon the results of examination of the parents, useful though this information may be. A considerable proportion of the fathers and a few of the mothers of syphilitic children have negative Wassermann reactions. A negative Wassermann reaction in the mother, or in both parents, is not valid evidence that the infection in the child is not inherited. A positive Wassermann reaction in either or both parents cannot be taken as proof of syphilis in the child. The finding by means of dark field examination of *Treponema pallidum* in preparations from syphilitic lesions makes the diagnosis absolute. However, this procedure is of value only when the superficial early lesions are present. In late lesions the organisms are so few that search is futile.

Few of the clinical manifestations of syphilis are pathognomonic. Many of the lesions de-

scribed as typical can be caused by other conditions. Of the scars or stigmata of syphilis nearly all constitute only presumptive evidence. Various combinations of lesions, of course, are of greater value than any one of them alone. Although in many instances the lesions present are unmistakably syphilitic and the diagnosis can be made with reasonable certainty, syphilis is so important to the individual who has it that it might be considered improper to depend on clinical diagnosis alone. Also there exists a very large group with latent syphilis in which the infection would not be recognized without laboratory assistance. A knowledge of the reliability of the Wassermann reaction and precipitin tests in children becomes important.

Nearly forty per cent of all syphilitic infants have a negative Wassermann reaction at birth. With but rare exceptions the reaction is positive by the time the infant is two months of age; in the exceptional cases an additional period of a few weeks is required. In some cases the reaction at birth is moderately or weakly positive; in all of these it is strongly positive at the end of two months if syphilis is present. In some cases Wassermann bodies are passively transferred from the mother to the infant and at birth the cord-blood Wassermann reaction is positive, although less so than that of the mother. Wassermann bodies passively transferred disappear in a few weeks. Babies not infected always show a negative Wassermann reaction at the age of two months. In some instances of passive transfer the baby is syphilitic and one may observe Wassermann reactions positive at birth, weaker and perhaps negative in a few weeks, and by two months of age again strongly positive. Thus in the first two months some difficulty in interpreting the Wassermann reaction is encountered. However, by two months of age and for several years thereafter the Wassermann reaction is strongly positive in all untreated cases of syphilis and negative in all nonsyphilitic children. From two months to fifteen years of age syphilitic children have a strongly positive blood Wassermann reaction in 96 per cent of the cases, moderately positive in slightly more than three per cent, weakly positive in 0.3 per cent and negative in 0.3 per cent or less. This high degree of dependability of the Wassermann reaction in the child is in marked contrast with the relative unreliability seen in adult acquired syphilis. Certainly a negative reaction in the presence of any degree of clinical activity would be a rare finding. With rare exceptions a negative Wassermann reaction in childhood signifies the absence of syphilis, and probably without exception a strongly positive reaction shows

the presence of syphilis, whether or not it is clinically manifest. The provocative Wassermann test seems to have little or no value in childhood. If the cerebrospinal fluid Wassermann reaction is ever to be positive it is probably always positive by four to six months of age. Increase in cells and protein along with a positive colloidal gold test occurs before the spinal fluid Wassermann becomes positive, although the latter remains the best single criterion of neurosyphilis. While non-specific reactions are uncommon with the Kahn test, one rather frequently finds a negative Kahn reaction with serum from young syphilitic babies who have a positive Wassermann reaction. Among older individuals the Kahn test is somewhat more sensitive than the Wassermann test and thus serves a useful purpose in following the results of treatment. However, in making the original diagnosis it is preferable not to depend wholly on the Kahn test, but to use the Wassermann test also.

The use of the x-ray as a diagnostic procedure in early syphilis is valuable in those cases where the serology is not yet definite and where the infant presents no clinical evidences of syphilis. X-rays of the long bones will frequently show a syphilitic periostitis, osteochondritis or epiphysitis, permitting a diagnosis earlier than otherwise would be possible.

PROGNOSIS

There is a high mortality rate associated with the early stages of congenital syphilis as contrasted with a negligible mortality rate in early acquired syphilis of adults. These deaths occur in the early or florid stage of the disease. A syphilitic baby has only one-third to one-half the chance of life that a nonsyphilitic baby has. After seven months of age the mortality rate is low. Relatively few older children die from syphilis, and these usually have neurosyphilis. In a large group of patients an occasional death occurs from therapeutic reactions or accidents.

The individual lesions of syphilis heal with treatment save for a few exceptions in neurosyphilis. Sometimes scars result, and in certain locations these leave permanent impairments such as blindness and deafness. The prognosis of asymptomatic neurosyphilis is good if treatment is sufficiently persistent, while prevention of further damage is all that can be accomplished in most cases of symptomatic neurosyphilis.

The prognosis for complete eradication of the infection in latent syphilis, where the positive Wassermann reaction is the only evidence of persistence of infection, is good. With adequate treatment the Wassermann reaction will eventually become negative and remain negative save in a

very few instances, usually found in late stages of neurosyphilis. If a child has a negative Wassermann reaction for about one year while receiving continuous treatment, the reaction will remain negative thereafter and no clinical lesions subsequently develop. For all practical purposes such a child is cured. The average time for cure is less in infancy than in childhood. One can expect the older child to require treatment for two years and in some instances cure is not effected until after seven or eight years of continuous treatment. In infancy, cure may be expected in less than a year of treatment, and neurosyphilis at this age does not seem to prolong the treatment time. There is a distinct advantage in early diagnosis and treatment. When the Wassermann reaction starts to "break" it may be expected to be negative within six to twelve months of continued treatment.

TREATMENT

The treatment of congenital syphilis is directed toward arresting further advance of the disease, healing of the lesions already present, and finally complete eradication of the infection. In children, a positive serology is to be interpreted as continued activity of the infection. Consequently, treatment is aimed toward producing negative Wassermann and Kahn reactions; toward a serologic as well as a clinical cure. Experience



Fig. 1. Child restrained for treatment.

has shown that clinical or serologic relapse does not occur in any child whose Wassermann reaction has remained negative for a year. It is rational, therefore, to continue treatment until this serologic goal, a year of negative reaction, has been attained, regarding it as a criterion of adequacy in treatment.

Certain social and economic problems associated with syphilitic patients often threaten success in the medical objectives by creating treatment delinquencies and unauthorized termination of treatment before cure. Medical social work performed with tact and human understanding by trained personnel has demonstrated itself as the

most efficient means at our disposal in combating these forces that jeopardize adequate treatment. Furthermore, the social pathology disclosed by the vast majority of patients with congenital syphilis requires consideration as well as that due to the *Spirochaeta pallida*. The cooperation and counsel of the physician in medical social problems are to be encouraged.

The evaluation of therapeutic agents used in the treatment of congenital syphilis requires years of trial. Those drugs found most effective are



Fig. 2. Vein in arm being used for treatment; assistant's hand acting as tourniquet.

various synthetic arsenical spirillicides, bismuth and its salts, and mercury and its salts. The arsenical preparations are divided into two groups; those containing trivalent arsenic (arsphenamine, neoarsphenamine, and sulpharsphenamine), and those containing pentavalent arsenic (tryparsamide and acetarsone). Of the various mercury preparations, hydrargyrum cum creta (gray powder) is found most convenient in children. The oily suspensions of bismuth seem preferable in children, such as bismuth salicylate and potassium- or sodium-potassium bismuth tartrate. Nonspecific measures, malaria being foremost, are to be recommended only in selected cases of neurosyphilis in older children, and then only in conjunction with or after trial of the customary methods of treatment. A tabulated record or summary of all treatment administered, together with reports on Wassermann reactions on blood and spinal fluid and urinalyses, with their dates, should be kept for each patient receiving anti-syphilitic treatment. Many errors will be avoided by a concise summary record.

Arsphenamine has the greatest effectiveness of all the arsenical preparations. It is marketed in ampoules of acid arsphenamine hydrochloride, a yellow, water-soluble powder. After solution in water it *must* be converted into the sodium salt by the addition of sodium hydroxide before it is administered. It *must* be given intravenously,

and extravasation into the tissues causes painful induration and even slough, a possibility which should be kept in mind when selecting the vein used for administration. The dosage is 0.1 gram of arsphenamine for each 22 pounds of body weight (ten milligrams per kilogram) and never more than 0.6 grams. The powder is dissolved by sprinkling it on the surface of sterile distilled water, using four cubic centimeters of water for each 0.1 gram of drug. Sodium hydroxide (4.0 per cent) is then added, all at once, to the acid solution, using 0.75 to 0.9 cubic centimeter per 0.1 gram of drug (7.5 to 9.0 cubic centimeters for each 1.0 gram of arsphenamine). A pre-



Fig. 3. External jugular vein being used for treatment.

cipitate of arsphenamine then forms, but redissolves immediately, leaving a clear solution. If the solution is not clear, filtering is necessary before it is transferred to a syringe. (As a rule the gravity method is not applicable to children). Since the administration of an acid solution will lead to pulmonary emboli and almost certain death, testing for alkalinity just before administration is imperative. A drop of the solution is added to a phenolphthalein solution, a red color indicating alkalinity.

Neoarsphenamine is less effective than arsphenamine, but is easier to administer since it does not require neutralization and is easily soluble in water. For use 1.0 gram may be dissolved in ten cubic centimeters of water. The dose is fifteen milligrams per kilogram of body weight. It should be given intravenously, although it causes less induration with accidental extravasation into the tissues than arsphenamine.

Sulpharsphenamine does not require neutralization, and can be given intramuscularly or intravenously. For intramuscular use, 1.0 gram is dissolved in 3.0 cubic centimeters of water. The dose is 20.0 milligrams per kilogram of body weight. Its chief disadvantage, a serious one, is that dermatitis and other reactions are much more frequent with sulpharsphenamine than with the other arsphenamines.

Acetarsone (stovarsol) is a white powder, dispensed in tablet form. Its chief advantage is a considerable effectiveness against syphilis when administered by mouth. Its use in the treatment of infants has become popular. One schedule of dosage being widely used consists of 5.0 milligrams per kilogram of body weight daily for the first week, 10.0 milligrams for the second week, 15.0 milligrams for the third week, and 20.0 milligrams per kilogram daily for the next six weeks, usually in divided dose. This course is followed by other courses at intervals of six weeks. Three courses are advocated for infants. Reactions are usually mild and generally controlled by discontinuance of the treatment temporarily, although fatalities have been reported. As a precaution, prescriptions for new patients should be given only for one week's supply.

Tryparsamide has a low spirillicidal value. Its chief advantage is its ability to penetrate into the central nervous system in contrast with the relative inability of the arsphenamines to do so. It is not needed in early neurosyphilis, as arsphenamine is quite effective in infancy, but may be of value in older neurosyphilitic patients in conjunction with the more customary drugs. It is a white crystalline powder easily dissolved in water, usually given in a concentration of 1.0 gram to five cubic centimeters of water. The dose is 50 milli-



Fig. 4. Scalp vein being used for treatment.

grams per kilogram of body weight, administered at intervals of five to seven days, preferably by vein. Treatment should be interrupted if visual disturbances occur. Some consider optic atrophy a contraindication to its use.

Mercury by mouth is more successful in children than inunction because of the ease of administration. A suitable dosage is one-fifth grain twice daily for young infants, one-half grain three times daily for young children, and one grain three times daily for older children. Catharsis and toxic symptoms usually do not occur with this dosage.

Bismuth is increasing in use as an effective antisyphilitic drug in all stages of the disease. It is superior as a spirillicide and is less toxic than mercury, being tolerated over long periods with few reactions. Albuminuria is an early sign of overdosage. A few cases of pulmonary embolism have been reported, presumably caused by accidental entry into a vein during intramuscular injection. The oily preparations, such as bismuth salicylate and potassium- or sodium-potassium bismuth tartrate, are relatively less toxic than the water soluble salts. A suitable dose of these



Fig. 5. Ankle vein being used for treatment.

preparations is an amount which allows 2.0 milligrams of bismuth per kilogram of body weight. Injections may be given once or twice weekly.

Many efficient systems of treatment can be devised. There is, however, no question as to the superiority of continuous over intermittent treatment. The continuous use of at least one of the heavy metals beneficial in syphilis is necessary in any good scheme. True rest periods should never be permitted in early syphilis and preferably not in late syphilis. The arsenical drugs may be given in courses, with intervals between courses, but bismuth or mercury should be administered during these intervals. Intensive arsenic therapy is safest with arsphenamine, as neoarsphenamine and especially sulpharsphenamine may cause reactions when used intensively. The beginning of treatment should be gradual, and only a fraction of the full therapeutic doses should be given. This applies especially to the spirillicides, and is very important in cases of florid infantile syphilis, where a full dose may be a direct cause of death. In infancy, arsphenamine therapy should be preceded by a short period of bismuth or mercury administration, with individualization of the management of each baby in regard to the best time to start arsenic treatment. After two or three weeks full dosages are being given and the routine decided upon may be followed. A common routine consists of bismuth intramuscularly once each week, and gray powder by mouth each day continuously, with one of the arsphenamines once a

week for three to five doses concurrently with the other medication, and a repetition of the series every two months. Such a scheme requires weekly service of the physician. A system which lends itself to patients living at a distance consists of arsphenamine every second day for five doses; bismuth intramuscularly coincidentally with the first, third and fifth arsphenamine treatment; gray powder being given by mouth at home for the remainder of a six to eight weeks' period, the procedure then being repeated. This rather intensive arsenic therapy over a period of eight days is safe only with arsphenamine. This intensive arsenic therapy method has been found to be considerably superior to that of weekly treatments. Regardless of the routine used, care in following the physical condition of the child is important, and appropriate modification of treatment plans should be made when indicated. Urinalysis at frequent intervals will often warn against over-dosage of heavy metals. Wassermann tests at two to three month intervals are helpful in following the progress of treatment.

In the performing of diagnostic and therapeutic procedures good instruments and an efficient assistant are imperative. Pain can be circumvented by the use of sharp needles. The presence of an assistant who can skillfully restrain a child expedites the procedure. In intravenous procedures, it is well to note the number of available veins and



Fig. 6. Site of intramuscular injection.

plan the intravenous work accordingly. Blood for Wassermann tests can often be obtained from small veins about the wrists or on the scalp, the larger ones being reserved for administration of arsphenamine, thus practicing what might be called vein conservation. With care and a moderate amount of skill, intravenous arsphenamine therapy is easily accomplished, and recourse to intramuscular sulpharsphenamine is unnecessary. The femoral veins and the anterior fontanelle should be used for the withdrawal of blood only by those familiar with these procedures, and these

sites should at no time be used for the administration of drugs. The external jugular veins in the neck lend themselves both to the withdrawal of blood and to administration of drugs, as do those about the elbow and ankles. The great saphenous vein anterior to the medial tibial malleolus often serves admirably. Lumbar punctures in children can be made a safe office procedure. An assistant holding the head and knees together facilitates this diagnostic test. Novocaine is usually not needed. In children the lumbar puncture is done between the third and fourth lumbar spines, at the same site as in adults, although the needle need not be inserted so far. It is well to remember that rupture of the nucleus pulposus has resulted



Fig. 7.

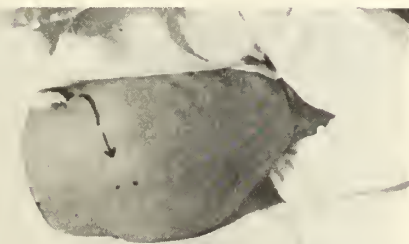


Fig. 8

Figs. 7 and 8. Two views illustrating method of holding child for lumbar puncture, and showing site of puncture.

from poorly performed punctures. Cisternal puncture is never indicated. The spinal fluid should be allowed to flow out very slowly, and never to spurt out as will happen if the stilette is removed completely with the child straining. The child should rest lying down for at least one hour after the test. Intramuscular injections should be made in the outer upper quadrant of the buttocks, and one should always aspirate first to be sure the needle is not in a vein. Treatments should be in alternate sides.

Unfavorable reactions following arsphenamine administration may be due to technical errors or

to idiosyncrasy to the drug. Cutaneous reactions, hemorrhagic encephalitis, jaundice, and also the less serious nitritoid and immediate reactions are occasionally seen. Epinephrine gives relief in nitritoid reactions. The immediate reactions such as vomiting, headache, diarrhea and slight fever are transitory and without danger. Hemorrhagic encephalitis is the most serious of all of the reactions. It appears three or four days after one of the first treatments with an arsenical drug, and is usually initiated by apathy, convulsions, coma and fever. Without energetic treatment, death invariably follows in twenty-four to forty-eight hours. With early treatment the chances for recovery are good. Treatment consists of epinephrine in full dose at short intervals, sodium thiosulphate by mouth (1.0 gram every six hours) and by vein (0.5 to 1.0 gram several times daily), 20 per cent intravenous dextrose (twenty cubic centimeters per kilogram of body weight) and occasionally intramuscular magnesium sulphate (0.2 cubic centimeter of a 25 per cent solution per kilogram of body weight). The cutaneous reactions, appearing early in the course of treatment but not always after the first or second injection, begin as an erythema which disappears promptly with sodium thiosulphate by mouth. Severe reactions may require intravenous sodium thiosulphate. Quinine is reputed to be useful. The prognosis for arsenical dermatitis is considerably better in children than in adults. The Wassermann reaction is often negative after arsenical dermatitis and tends to remain negative thereafter, treatment being continued notwithstanding. After recovery from the various types of reactions, the arsphenamine preparation can again be tried, using a small dosage and administering sodium thiosulphate simultaneously. One usually finds that the drug is well tolerated and the regular routine can be resumed.

ADVANCES IN INTERNAL MEDICINE IN 1936

J. STUART McQUISTON, M.D., F.A.C.P.,
Cedar Rapids

During 1936 many outstanding pieces of work have been reported, throwing new light on old subjects and identifying new fields for future study.

Hoyne of Chicago¹ has presented some outstanding results in the treatment of meningococcic meningitis by massive doses of intravenous antitoxin alone. Ninety-six patients were treated thus with a mortality rate of 15.9 per cent, and for forty-three of these patients who were under twenty years of age the mortality rate was 2.3 per cent. Fewer complications occurred in pa-

tients treated with Ferry's meningococcus anti-toxin than in those given antimeningococcus serum. Hoyne's results are better by far than any previously reported for this disease.

Wells² has shown that air can be cleared of *B. coli* contamination and the virus of influenza rendered innocuous by exposure to ultraviolet radiation; a subject worth considering in operating rooms especially.

The common cold continues to hold the attention of investigators. Rivers³ in his review of virus diseases quotes the work of Kruse, Foster, and Olitsky and McCartney, as confirming the view that a virus is the etiologic agent in colds and in influenza but of different strains. Kerr⁴, however, feels that the common cold is most likely due to failure to make prompt adjustment to sudden changes in the temperature of our environment.

After Leake's report of poliomyelitis following vaccination with attenuated virus this prophylaxis has been abandoned, at least temporarily. Recent work has been concerned with establishing temporary immunity through the use of topical applications to the mucous membrane of the nose inasmuch as the olfactory tracts seem to be the portal of entry for the virus. Hudson, Lennette, and Gordon⁵ observe that sectioning of the olfactory tracts prevents infection not only after intranasal instillations of the virus but also after intravenous injections of the virus. Zinc sulphate, 0.5 to one per cent, is the most effective agent found by Schultz⁶; 95 per cent of fifty-three treated monkeys resisted intranasal inoculations for one month, while 95 per cent of an equal number of untreated controls developed the disease.

In the past year anyone familiar with the use of the microscope has been able, in a few minutes, to determine the type of lobar pneumonia with which he is dealing by the use of the simplified Neufeld typing sets. The combined antipneumococcic serum with heterophyle antibodies has not been as popular as the type specific serum. All serums are well concentrated now and reactions are few. Consistent reductions in the mortality rate have been reported from the use of serum in the available types. The pneumothorax treatment of lobar pneumonia has not maintained the popularity it held two years ago because it was applicable only to a small group of cases and complications were too frequent. However, pneumothorax still holds the lead in the treatment of tuberculosis so that now seventy-five per cent or more of the patients with tuberculosis are receiving this aid. Its popularity, according to Cutler⁷, is due to its unique ability to solve many of the pressing problems confronting the tuberculous

patient. It controls toxemia, shortens convalescence, and improves the prognosis and decreases the public health hazard by eliminating the tubercle bacilli from the sputum.

Chief interest in the past year in the field of urology has centered around the use of mandelic acid in urinary infections, especially those due to the colon bacillus. Helmholtz and Osterberg⁸ report a detailed study of their observations on the concentration of mandelic acid and the hydrogen ion concentration which must be obtained for the urine to possess bactericidal activity against numerous strains of organisms isolated from the urine of individuals having infections of the urinary tract. They found that concentrations of mandelic acid varying from .25 to one per cent can be obtained readily in the urine. They stated that in this range of concentration the acid will act bactericidally on most organisms at a hydrogen ion concentration ranging from 5.0 to 5.7. They also stated that certain strains of *Aerobacter* and *Pseudomonas* are far more difficult to kill than is *Escherichia coli*. Numerous clinical studies reveal a high percentage of cures in *B. coli* cases but nearly all authors stress the resistance of the *Staphylococcus* and *B. proteus*. Proprietary preparations have all been forms of ammonium mandelate to avoid the necessity of giving an acid salt to aid in developing sufficient acidity of the urine, but some patients will still require additional medication with ammonium chloride or ammonium nitrate to lower the urinary hydrogen ion concentration into the effective range. A word of warning is also noted against the indiscriminate use of the mandelic acid in all cases of pyuria lest the factor producing the pyuria be lost sight of in the too enthusiastic use of a new therapeutic agent.

Opposed to the views of Rinehart, who claims that rheumatic fever may be the result of Vitamin C deficiency and infection, Schultz⁹ shows by studies on cevitic acid utilization that subclinical scurvy is not likely to be an etiologic agent in rheumatic fever. His negative studies on the prophylactic and therapeutic use of cevitic acid are offered as additional evidence against Rinehart's thesis.

Willius¹⁰ reported a statistical study of 370 cases of coronary thrombosis to determine the life expectancy. He found a mortality rate of 47.5 per cent among cases of solitary coronary occlusion, 69.8 per cent among cases in which there were two attacks, and 75 per cent where three attacks had occurred. Contrary to expectations, coronary occlusions in the younger age groups were less fatal than in those past sixty years of age. Durant¹¹ reports seven cases of coronary occlusion in patients ranging in age from twenty-two to

thirty-five years, again reminding us that this is not a disease limited to middle age.

Glycosuria seen in cases of coronary thrombosis is not due to latent diabetes; follow-up studies reveal a return of the tolerance curves to normal in a majority of the cases studied by Raab and Rabbinowitz¹². A disturbance in the vegetative nervous system is thought to be the cause of glycosuria as a transient condition. A promising field for future investigation is seen in the reports on roentgenkymography in relation to heart disease. This new diagnostic approach is the connecting link between fluoroscopy and roentgenography. Wendell Scott¹³ presented an excellent study of the clinical and physiologic value of roentgenkymography in heart disease.

Diagnostic heart studies have been concerned with further study of the fourth or precordial lead. The report by Levine¹⁴ again confirms the work of Wilson, and covers the analysis of one hundred cases of angina pectoris in persons not confined to bed. This study showed that myocardial infarction had occurred in sixteen cases where there was no clinical evidence of a previous coronary thrombosis. A timely article on the errors in the clinical application of electrocardiography by Breed and Faulkner¹⁵ points out the occurrence of certain positive abnormalities or peculiarities of the electrocardiogram in the absence of organic heart disease which illustrates the dangers of interpreting an electrocardiogram without a full knowledge of all the other clinical features of the case.

Beck¹⁶ reported on eleven patients upon whom he had operated for coronary sclerosis and angina pectoris by establishment of collateral circulation with the chest wall. Six of the eleven are still living and improved. This is an entirely new field and, like total thyroidectomy for heart disease, requires careful selection of cases, further experimental study and an unprejudiced analysis of the results.

The inhalation from two to four times daily of the contents of ampoules containing one cubic centimeter of trichlorethylene has been used with some success by Love¹⁷ in the prevention of angina pectoris. He advises caution in using the drug because of reported cases of industrial poisoning due to this agent. Quinidine is being used with less fear than formerly in cases of paroxysmal tachycardia and in cases of auricular fibrillation of short duration and without evidence of decompensation. A word of caution is found in the article by Bower and Mengle¹⁸, who reported two deaths which occurred following the intramuscular administration of digitalis and the intravenous injection of calcium gluconate chloride. Lab-

oratory experiments confirmed the additive effect of digitalis and calcium when given simultaneously.

Attacks of syncope and convulsion attributed to a hyperactive state of the carotid sinus reflex have been reported by Weiss, Capps, Ferris, and Munro¹⁹, and by Smith and Moersch²⁰. These attacks are a result of abnormal slowing of the heart, depression of the blood pressure or a central reflex to the brain. Surgical denervation of the carotid sinus abolishes spontaneous and induced attacks in suitable cases but does not influence any of the unrelated accompanying symptoms.

Evidence was presented by Dunphy²¹ to show that vascular disease of the mesentery can cause abdominal pain in the absence of gangrene or peritoneal irritation. Such pain was thought to be due to anoxemia of the intestinal musculature.

A year ago Greenspon presented evidence attempting to refute the existence of Castle's extrinsic factor in pernicious anemia. Since then Castle and Ham²² have reviewed this work and report the following conclusions:

1. Normal human gastric juice does not contain, on oral administration, an "antipernicious anemia principle" effective without contact with food (extrinsic factor).
2. Hog stomach mucosa contains both an extrinsic and intrinsic factor responsible for the activity of such mucosa and of whole desiccated hog stomach.
3. Beef muscle (extrinsic factor) and gastric juice (intrinsic factor) administered without opportunity for contact are not effective in pernicious anemia.

FitzHugh and Creskoff²³ also failed to confirm Greenspon's work. Apperly and Cary²⁴ observed the relationship of gastric acidity to erythrocyte count and found a commensurate reduction in values in anemia caused by hemorrhage. In increasing hematocrit volumes above about 50 per cent, as in polycythemia, there was again a gradual fall of acidity. Alvarez and Vanzant²⁵ have also reported on this relationship between gastric acids and erythrocyte counts.

Chief interest in gastroduodenal disorders has centered around the use of the gastroscope introduced by Schindler for direct observation of the gastric mucosa. Many cases thought to be functional in nature now appear due to gastritis. Gastro-intestinal allergy²⁶ and the leukopenic index²⁷ have been discussed frequently in the past year. Undoubtedly many cases in this classification are diagnosed.

Conflicting reports have been presented on the

efficacy of the injection treatment of ulcer, but it is probably best classified as an additional method of therapy when the usual diet-alkali regime is not successful²⁸. The mode of its action has not been determined.

In Eusterman's discussion of roentgenologically negative gastric disorders²⁹ he states that this group constitutes four-fifths of all gastric complaints. Reflex disturbances in the stomach from disorders in other abdominal viscera account for one-third to two-fifths of all cases. The neuroses constitute about one-fourth of the total. Fifteen to twenty per cent of the cases of gastric disturbances are attributable to disease of organs remote from the stomach. One of the most interesting and practical studies on the biliary system was that of McGowan, Butsch and Walters³⁰ on the pressure in the common bile duct following cholecystectomy. They demonstrated that morphine constantly caused a rise of the intraductal pressure, and that this pressure was reduced almost at once by the inhalation of amyl nitrite, or in a few minutes by the ingestion of one-hundredth of a grain (0.0006 gr.) of glyceryl trinitrate. This information had a practical value in that amyl nitrite was found to relieve pain associated with increased pressure in the common duct. Several reports have appeared in the literature favoring the use of bile salts in the treatment of chronic cholecystitis or cholelithiasis where surgery is refused or not advised.

The treatment of diabetes has advanced more in the past year than in any year since the advent of insulin, and this is due to the use of protamin zinc insulin, introduced by Hagedorn more than a year ago. Until recently its use has been limited to research clinics so that sufficient experience might be had before its general adoption was permitted. The literature on the subject is already so voluminous that no specific articles will be referred to. That it is a distinct improvement in therapy is conceded by nearly every one who has used it. However, all writers have emphasized the need of caution in its use and stated that not all patients are benefited by this new therapy. It is hoped that it will be especially valuable for persons requiring multiple doses of regular insulin and in those patients who present very labile blood sugar curves. There is a difference of opinion as to the optimal time of administration, whether night or morning or both, and many cases are found in which a combination of regular and protamin insulin gives the best results. Crystalline insulin developed by Sayhum of Detroit has been studied and found to have an effect on the sugar content of the blood of non-diabetic patients for thirteen to fourteen hours. Altshuler and

Leiser³¹ found better control of the blood sugar levels of diabetic patients with fewer doses or fewer units or both when crystalline insulin was used. Mains and McMullen³² also found crystalline insulin equally potent with regular insulin and fewer doses were needed.

Randall and Ryncarson³³ reported their experience in the delivery and care of the newborn infant of the diabetic mother. They advocate delivery by cesarean section in the thirty-sixth or thirty-seventh week of pregnancy. The baby is handled as a premature infant and is placed in an incubator to receive oxygen. The hypoglycemia present in these infants is combated by the intramuscular administration of five cubic centimeters of ten per cent dextrose in each buttock. Further injections of ten cubic centimeters of ten per cent dextrose are given at intervals as regulated by values for the blood sugar determined microscopically, by the behavior of the infant, and by the ability of the infant to take feedings by mouth. Feeding is attempted within four hours, and ten cubic centimeters of a ten per cent solution of dextrose are given every two hours for the first forty-eight hours if it can be tolerated. This plan was successful in seven consecutive cases.

The daily iodine needs of the body have been placed at about 50 micrograms in the normal individual, but the excretion and therefore the need of iodine is greater in the presence of hyperthyroidism. Studies on the utilization of iodine indicate that iodine from sodium or potassium iodide, potassium iodate, diiodotyrosine, or iodized olive oil was readily available while that from iodosalicylic acid was only partly available.

A lowered basal metabolic rate without myxedema was discussed by Berkman³⁴. In this group are persons with menstrual disorders, sterility, hypersecretory rhinitis, anorexia nervosa, and hypopituitarism. He has found that in these cases, with the exception of hypopituitarism, promising results are obtained by elevating the basal metabolic rates to normal levels. Studies on the blood fat values by Chamberlain, Jacobs and Butler³⁵, indicate that this estimation may be used as an index of thyroid function comparable to the cholesterol values as suggested by Hurxthal in 1933. Both these factors are useful when a determination of the metabolic rate is not feasible.

In an attempt further to improve the small surgical risk of thyroidectomy in hyperthyroid cases with persistent tachycardia, thevetin, a cardiac glucoside, was given intravenously by Noble and Chen³⁶. A dosage of three to nine cat units diminished the heart rate in eighteen out of twenty-two cases. They claim the drug is most useful

during the operation but may be used both pre- and postoperatively.

Hypoparathyroidism has previously been treated by a high intake of both calcium and phosphorus, but Freyberg³⁷ has presented an excellent study of two cases which indicates that the calcium intake should be high while the phosphorus intake should be low. This can be accomplished by giving a diet low in phosphorus and adding calcium in the form of calcium lactate. Vitamin D in large amounts should also be used.

Israel³⁸ in an evaluation of endocrine therapy of primary dysmenorrhea found the use of urinary gonadotropic substance (antuitrin S) and estrogenic substance (progynon B) to be disappointing. Altschul³⁹ obtained almost total relief in ten out of twelve cases of primary or essential dysmenorrhea by using insulin from three to seven days before or during the period.

A partial advance in the treatment of migraine headaches has been reported by numerous authors in the past year in that the acute attacks may be prevented in more than 90 per cent of the cases by the hypodermic administration of ergotamine tartrate in the form of gynergen. The cause for the improvement has not yet been determined. The use of large amounts of the drug should be avoided because of several reported cases of gangrene of the extremities following its use. It should be pointed out that these deleterious results were from accidental overdosage. The dose usually given is one-half to one cubic centimeter subcutaneously, the larger dose being used to those patients suffering the more severe attacks, or for those treated some hours after the onset. Little or no advance has been made in the prevention of migraine except in those attacks occurring in relation to the menstrual periods, and in these a reduced incidence has resulted from the hypodermic injections of theelin or progynon⁴⁰.

Since the work of Steinbach of Germany in 1915 advocating spinal drainage in delirium tremens, numerous authors have confirmed his observations. The latest report is that of Cline and Coleman⁴¹ who had a mortality rate of only 3.82 per cent by using this method. Their routine treatment was as follows: slow spinal drainage of from 50 to 75 cubic centimeters of fluid, 50 to 100 cubic centimeters of 50 per cent dextrose administered intravenously, one to two ounces of magnesium sulphate by mouth, two to four drachms of paraldehyde by mouth or rectum for sedation, and limitation of fluids to 1000 cubic centimeters for twenty-four hours. Although this treatment is not new the article re-emphasizes the consistently good results of this method.

This review has of necessity been brief but an attempt has been made to cover some of the representative papers showing the newer work in the field of internal medicine.

313 Higley Building.

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SKELETAL TRACTION IN FRACTURES OF THE LOWER EXTREMITY*

GLENN C. BLOME, M.D., F.A.C.S.

and

HAROLD A. SPILMAN, M.D., F.A.C.S.

Ottumwa

The x-ray, plaster of Paris dressings, open reduction with internal fixation, skeletal traction, and the demands of industry for better and more economical results, have constantly created new problems and required more nearly perfect anatomic and functional end results in the treatment of fractures. When x-ray studies first became common, we had to learn, and are still having to remember, to treat the patient rather than an x-ray film. In other words, we had to learn exactly what was important in a given case for a good functional end result. Then we had a wave of enthusiasm for open reduction and internal fixation. Again, we had to learn how and where to use the new method. Recently Boehler's work has done much to popularize a rather old method of treatment, viz., skeletal traction, and again, the profession will have to learn its possibilities and limitations. We will discuss the use of this method in a few of the fractures of the lower extremity. There are three methods of obtaining skeletal traction: by tongs, by a Steinman pin, or by a Kirshner wire. The tongs do not penetrate bone and hence present less danger of a serious infection, but they can only be used in a few places where the bone is flaring out distally, and, even then, will slip if not very carefully placed. The Steinman pin has a wide range of possible uses, and is stiff, but presents a danger of osteomyelitis unless great care is taken. The Kirshner wire, because of its small size, has an even wider range of uses than the Steinman pin and presents less danger of infection, but is awkward to handle in some locations because of its flexibility.

ADVANTAGES AND DANGERS

The advantage of skeletal traction is that one has very positive control over the distal fragment, especially as far as overriding is concerned. The dangers of the method are:

1. Infection. The skin must be prepared most carefully. The procedure should be carried out with rigid aseptic technic. The dressing must be left alone once it is securely in place. Provision must be made so that the bone does not slide on the pin. The pin or tongs, should not be left in longer than three to five weeks, as a rule. The portion of the pin or wire to be drawn out through bone, in discontinuing skeletal traction, must be carefully sterilized with iodine and alcohol. This danger of infection is sufficiently great, even under ideal circumstances, that pins or tongs should not be introduced near the fracture line. However, when they are introduced away from the fracture line, and meticulous care is used, it is almost universally agreed that the risk is so slight, the method can be safely applied by the average surgeon.

2. Overtraction. The bone ends in many instances can actually be pulled apart so there is no bony contact. This is a well recognized cause of nonunion, especially in the tibia.

FRACTURE OF NECK OF THE FEMUR

Each type of fracture presents its own particular problem in the use of skeletal traction. Let us first consider the "unsolved fracture," namely, fracture of the neck of the femur. Here we have a choice of reduction and immobilization by plaster cast, traction, and open reduction with fixation by a nail or peg. When satisfactory reduction can be obtained and the patient can tolerate a cast, it is the general consensus of opinion that one of the many variations of this method should be used. For the remainder of the group, and that comprises a fairly high percentage, some type of "traction" remains the preferable method, except for possibly a few men who are expert enough to use a nail. Skin traction will solve the problem in a few cases, but often does not permit adequate traction and is troublesome to keep in place. Skeletal traction applied through the condyles of the femur, or crest of the tibia, frequently offers a better alternative, especially in intertrochanteric fractures, where less abduction and more traction is often required than in true fractures of the neck, and where union occurs more quickly. (See Plate I) In both of these types of traction the patient is required to stay in bed, and this requirement is often fatal for the very aged and debilitated. For this group, the Roger Anderson well leg splint which offers skeletal traction without requiring the patient to remain in bed, seems to us the method of choice. To those not familiar with the method, the apparatus consists of this splint. A cast is applied from toes to mid-thigh on the well leg and one stirrup incorporated in the cast. A Steinman pin or Kirshner wire is in-

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Plate I: Above—Left to right, A, B, C and D.

Plate I. Mr. R. A. H., seventy-one years of age, muscular man. Trochanteric fracture left femur. Treatment: immediate hospitalization; Thomas splint with hinged knee attachment; Kirschner wire through lower end of femur just above condyles for five weeks. A. 6-4-36, before treatment. B. 6-19-36, Buck's extension, fifteen-pound weight applied to well leg to eliminate tilting of the pelvis and abduction of the shaft. Removed three weeks later. C. 8-11-36, satisfactory position, good callous development. D. 9-25-36, good clinical results obtained. Weight bearing permitted.

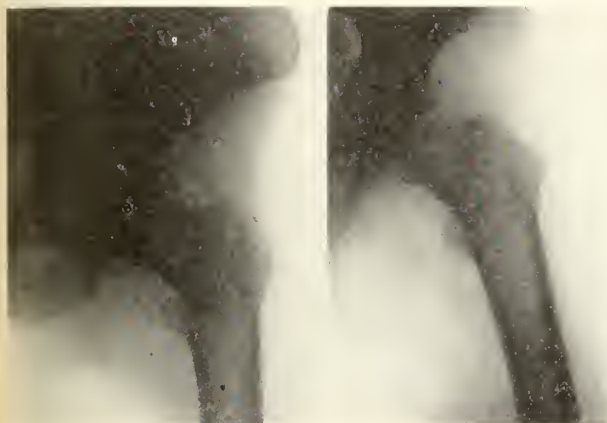


Plate II: Left—Left to right, A and B.

Plate II. Mrs. E. W., sixty-eight years of age, slender woman with weak musculature. Treatment: immediate hospitalization; patient in semicomatose condition; following day, Roger Anderson well leg splint applied; four days later, patient more clear mentally, sitting up in bed. A. 10-7-35, before treatment. B. 12-7-35, satisfactory position; callous forming; splint removed; good clinical results.

Plate III: Right—Left to right, A, B, and C.

Plate III. Mr. G. D., forty-two years of age, fracture middle third femur. Treatment: Thomas splint with hinged knee attachment; Kirschner wire through femoral condyles, twenty-five-pound weight. Three days later muslin sling removed from posterior surface of thigh and tightly applied to anterior surface, later sandbag added to anterior thigh. Weight reduced to twenty pounds. At four weeks wire replaced by Buck's extension with fifteen-pound weight. A. 7-28-36, before treatment. B. 7-31-36, forward displacement proximal end of distal fragment. C. 8-21-36, improved position of fragments; good clinical results.

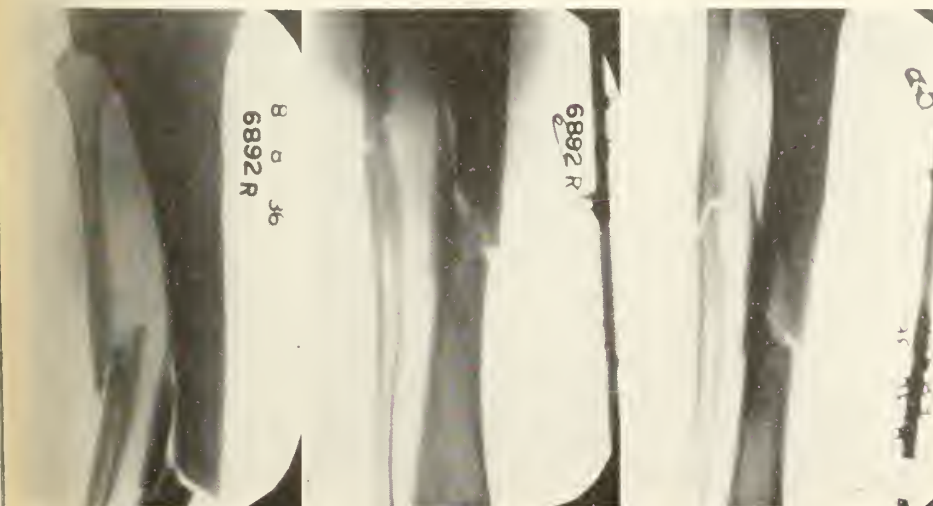


Plate IV: Left—Left to right, A, B, C and D.

Plate IV. Mr. R.,* sixty-eight years of age, compound comminuted fracture right tibia and fibula. Treatment: immediate hospitalization; debridement, wound closure; skeletal traction with tongs applied to malleoli, fifteen-pound weight; eight days later weight reduced one-half; after twenty-six days, traction removed, posterior molded plaster splint applied; four days later cast applied; good clinical results. A. 8-8-36, before treatment. B. Overextension. C. 8-30-36, satisfactory position of fragments.

*Courtesy of E. B. Hoeven, M.D.

serted through the distal end of the tibia of the affected side, the stirrup is attached, and both are incorporated in a light short leg cast. Screwing down the nut on the countertraction rod, pushes up on the well leg and provides traction to the affected leg. Abduction results from tilting of the pelvis. The leg should be rotated in, moderately. Thus we have the traction, abduction, and internal rotation necessary for reduction of these fractures.

There are several obvious objections to this method. First, the cast on the well leg must be applied very accurately and carefully cut out about the malleoli, or pressure necrosis will result. Second, the prolonged traction through the knee joint will result in injury to the ligaments unless great care is used. Third, leaving the pin in bone for ten to twelve weeks, as is required, predisposes to infection. Fourth, both legs are immobilized. To minimize these objections we have a debilitated patient in which only a small amount of traction is required. We have the advantage of excellent reduction and yet the patient can be permitted to sit up comfortably in bed, or ride about in a wheel chair. We would like to emphasize again, it is only in that group of patients in which the latter consideration is of paramount importance, that we consider this the method of choice. (See Plate II.) No reports of infections have been noted. Anderson¹ reports no difficulties with the knee joint in his series. Weil, Kuchner and Henry² report considerable discomfort about the knee. We have only noted such discomfort in one rather robust patient who should have had some other type of traction.

FRACTURE OF SHAFT OF FEMUR

Skeletal traction finds its widest use in fracture of the shaft of the femur, because here overriding is often difficult to overcome and shortening of the leg produces a definite handicap to the patient. We have essentially a choice of traction and open reduction in the vast majority of such fractures. Rare indeed is the acute fracture, in which solid union and a good functional end result cannot be obtained without the risk of open reduction. Skin traction, either by Buck's method or the more efficient Russel technic, will suffice for adults whose muscles are not heavily developed and with fractures in the middle third femur. For children, Bryant's overhead traction is universally accepted as the method of choice. Except where some particular contraindication exists, skeletal traction is coming to be increasingly more widely accepted as the method of choice for the remainder.

However, this type of traction presents several problems in technic. Traction may be applied through the condyles of the femur or crest of the tibia. The former obviously presents greater difficulty in application and the danger of entering the knee joint if care is not used. In addition, if the pin is not applied in the center or posterior half of the bone in the anteroposterior direction, the distal fragment tends to tilt anteriorly. It has the advantage of being attached directly to the lower fragment, and of allowing movement of the knee joint. One can easily place a pin or wire through the crest of the tibia, and this usually allows easy alignment of the fragments, and keeps the operative site away from the fracture line, in supracondylar fractures of the femur. It has the disadvantage of pulling through the knee joint. If this type of traction is discontinued at three weeks and undue traction is not used, there is usually no harm done. The type of sling to support the affected extremity is another debated point; some men favor the Thomas splint, and others advise the Braun type. Alignment of the fragments after overcoming the overriding is occasionally a time-consuming and difficult job, and one which should be properly done in the first few days. Each case presents its own problems in this regard and must be analyzed on its own merits. After three to five weeks there is usually sufficient callus to permit discontinuing skeletal traction and substituting a cast or skin traction. The latter is preferable, because mobilization of the joints and active use of muscles are possible. (See Plate III)

FRACTURES OF BOTH BONES OF LEG

Fractures of both bones of the leg present many problems. Many of these fractures are due to direct injury and consequently are commonly compound or comminuted. Fractures of the tibia are notoriously slow to heal and prone to nonunion. It is generally agreed that the majority of cases of simple fracture of both bones of the leg are best immobilized by a long leg cast. When traction is necessary to maintain reduction, or when compounding makes application of a cast dangerous, it is also very generally agreed that skeletal traction is usually to be preferred to skin traction, because of the small amount of skin surface available, and because the adhesive frequently comes loose. A pin, wire, or tongs, may be used in the lower end of the tibia or through the os calcis, the latter being more frequently used. The choice depends on individual preference and the location of the fracture. A weight of ten to twenty pounds is usually required for twenty-four to forty-eight hours, after which it can be reduced.

Overtraction is to be guarded against. After three to five weeks, union is usually sufficiently solid to permit a long leg cast to be applied. (See Plate IV) Boehler³ reduces the fracture immediately after application of the tongs by his screw traction apparatus, applies a short leg cast which is immediately split, and then applies traction in the usual manner.

Another method of using skeletal traction has recently been advocated by Anderson⁴ and by Griswold⁵ although the method did not originate with them. A Steinman pin is inserted below the tibial tubercle and another through the os calcis or lower end of the tibia. Thus the proximal and distal fragments are transfixed. The pins are attached to an apparatus which effects reduction of the overriding by separating the pins. Reduction is maintained by incorporating the pins in a long leg cast. Great care must be taken to prevent overcorrection of the overriding. After three to five weeks, the pins can be removed. The advantage of the method is that the patient can be up on crutches after twenty-four to forty-eight hours. Senger and Norman⁶, who have had a large experience with fractures, speak highly of the Anderson apparatus and method. We have had no experience with the method, but believe that only in a very unusual case is it the simplest and safest way of handling the situation.

CONCLUSIONS

1. Skeletal traction must be considered an operative method, and should not be used in the care of fractures when a satisfactory end result can be obtained by closed methods.
2. The risk of skeletal traction, used with due regard for its limitations and dangers, is so slight that it should be used whenever necessary to obtain a satisfactory result.
3. Infection and overtraction are the chief dangers of skeletal traction; its chief advantage is efficient and easily maintained traction.

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NEW DEVELOPMENTS IN THE STUDY OF HYGROMA

J. JAMES DUFFY, M.D., Denison

It is the purpose of this short treatise on hygroma to submit some information on these seldom discussed embryologic tumors, which, so far as I am aware, is totally new, both as to their accurate outlining before operation and as to their physiologic behavior in their own location and its relation to the general circulation. In the final conclusions I shall also point out some of the dangers which may be attendant upon any attempt at obliteration of these tumors by chemical means.

All of us in our clinical experience as medical students or in the years following, have at some time or other encountered these soft, fluctuating tumors, usually in children or young adults, although occasionally we see them occurring or continuing in the later years of life. They are in some respects analogous to the so-called "phantom tumors" elsewhere in the body because of the extremely variable size, and the suddenness with which the size may vary, and because of the symptoms which they may produce by reason of the location in which they happen to occur. Statistics show that they are most common about the neck and axilla, although they have been known to occur in the peroneum. In the neck they may exist in the posterior triangle or anterior to the sternomastoid muscle. They may be mistaken for purulent lymph nodes, either tuberculous or frankly purulent, and in the presence of septic manifestations in the same patient the diagnosis might easily be very difficult since many times their modest swelling may not have formerly been noticed. In adults they are most frequently missed because of their uncommon occurrence at that age. The patient may discover the mass while at home and after arriving at the examiner's office be disappointed to find the swelling difficult to demonstrate. If these patients are placed in a sharply inverted position on the examining table so that they are actually almost standing on their heads, most of these tumors will come into full bloom for examination. This is particularly true of the very obese individuals. When once the examiner has suspected hygroma it is only a matter of a short time until he can either confirm it or rule it out by aspiration.

When the tumor is palpated and found to be soft, fluctuating, and with poorly defined margins, and the patient has no temperature or other symptoms of sepsis, it is reasonably safe to proceed with aspiration to confirm the diagnosis. This is carried out with the best grade of a twenty

cubic centimeter syringe available (I use the Vin emerald glass because of the fineness of the finish in the barrel and on the plunger). This matter of a good syringe is essential if a large amount of the fluid is to be removed neatly. Contrary to the usual advice, I use a good sized needle which I have previously sharpened very carefully, because the flow is more rapid and with the specially prepared point there is little if any more pain connected with the puncture than when a small caliber one is used. The puncture is made through the skin with one thrust, the needle being allowed to dissect its way for about an inch before entering the tumor mass. If the aspirating examiner has a clear mental picture of how the inside of one of these hygromata looks, he will understand why so much difficulty is encountered in successfully aspirating one. On the inside they are composed of multitudinous little cells and sinuses whose walls are flimsy and trabeculated and from which tiny finger-like projections are frequently seen to be floating about in the liquid which distends the spaces in which they occur. They resemble the troublesome papillomatous projections that irk the urologist when he is trying to catheterize a bladder which harbors them. If we bear in mind that the fluid contained inside this tumor is freely accessible to all its ramifications and that there is no active circulation of this fluid we will understand why the aspiration must be carried out with very little suction on the plunger. Any sudden direction of the encapsulated fluid toward the needle will also carry the little flimsy trabeculations or the dangling projections into the needle only to clog it. If a high grade syringe is used the weight of the plunger in the dependent position will be enough to fill the syringe in a short time.

Thus far our discussion has been of an academic nature. The improvement in the study of hygroma which I wish to present can best be illustrated by describing a case report and the procedure.

Miss E. M., thirty-eight years of age, and a deformed cripple from the ravages of an epidemic disease of the central nervous system in childhood, was referred to me at St. Anthony's Hospital, Carroll, Iowa, by her physician, for a tumor of the neck occurring on the right side and in the posterior triangle. It had been present since childhood, but in recent years had been causing her considerable difficulty at times with her breathing. Many times in the night she would have to change her position on the pillow in order to get her breath; under excitement, anger, and haste, her breathing always seemed more difficult. In former years she stated that it was hardly noticeable, but recently it had been present and conspicuous at all

times. She feared malignancy as well as gradual strangulation and for these reasons was anxious to have it investigated with the view in mind of removing it if possible. Her physical examination, exclusive of the deformities incident to the childhood nervous system infection, was essentially negative.

On examination of the tumor mass it was found to have a very wide base, was soft, fluctuating and no nodules could be palpated. Further examination disclosed that the mass was not entirely superficial, but that the upper portion seemed to extend upward beneath the sternomastoid muscle; the external jugular vein was unusually prominent; and the mass could be displaced slightly in either the anterior or posterior direction. The thyroid gland was separate, distinct, and small. Because of the extreme difficulty which usually attends the removal in toto of these tumors, I was very anxious to gain some idea of the exact ramifications of this cystic mass before attempting its removal. Knowing their close relationship with the circulatory system I did not wish to use any radio-opaque substance which would be harmful if it came directly into the circulation, and yet I was anxious to obtain a good visualization of this tumor mass. For this purpose I elected to use a fifteen per cent sodium iodide solution similar to



Fig. 1.

that used in retrograde pyelography. In order to avoid making two punctures I delayed aspiration until the patient was on the x-ray table so that after the aspiration I might fill the mass with the iodide solution. After the patient was placed on the table a preliminary flat plate exposure in the

anterior posterior position was taken as illustrated in Figure 1. It showed the bulging mass but no details beneath the surface. Following this I aspirated twenty cubic centimeters of fluid which was at first homogenous and slightly reddish in color but toward the end was slightly turbid and contained some tissue remnants. At this time I immediately injected twenty cubic centimeters of the fifteen per cent sodium iodide solution without using any force, allowing the weight of the plunger to force the solution into the mass. There was absolutely no pain or discomfort accompanying the entire procedure. Very gentle but rapid massage was administered over the tumor in order to dissipate the solution more evenly throughout the mass. Another exposure was made immedi-



Fig. 2.

ately and the second picture was taken. Figure 2 shows the sharp outlines of the cystic mass as we would wish to see them, but I was disappointed because the ramus of the mandible obscured some of the view of the deep structures in the upper part of the neck and so I made another exposure in an attempt to improve upon the first. This second exposure was made in less than fifteen minutes after the injection of the iodide solution. Figure 3 shows the second picture taken about fifteen minutes after the injection, and it will be seen that all of the solution has entirely disappeared. Following this experience I contented myself with the physical findings and the one good plate, in the final analysis deciding upon a surgical attempt at removal.

The blood chemistry was satisfactory, and the patient was brought to the operating room. The

following notes were dictated at operation: "Under two per cent novocain infiltration satisfactory anesthesia was produced. An incision beginning just below the mastoid process was begun directly over the posterior border of the sternomastoid muscle and carried downward and forward for a

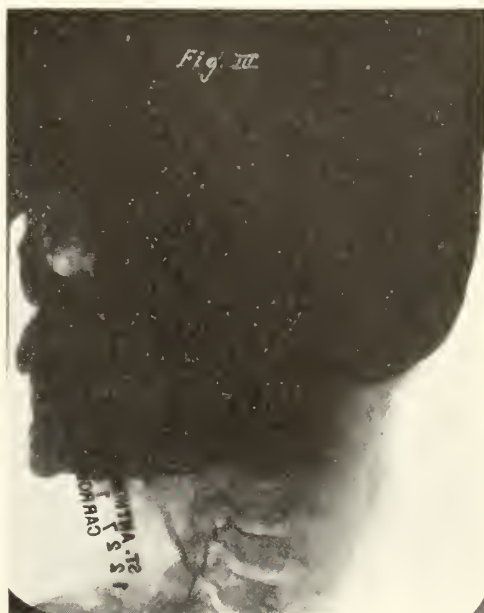


Fig. 3.

distance of about ten centimeters. Subcutaneous fat was very carefully dissected off the fascia, and great precautions were taken to avoid any injury to nerves. The fascia was then opened and the lobulated bluish colored tumor mass immediately came into view. The walls of the tumor were extremely thin and adhesions (probably old cervical lymphadenitis) were rampant over the surface. These were successfully divided without puncturing or rupturing the walls, although in most instances they were adherent to the stroma of the tumor. After the presenting part of the mass had been cleared of the adhesions the lower poles of the tumor were then isolated by blunt scissor dissection; this was rapidly accomplished in this region because of the absence of adhesions. With gauze covered fingers the assistant made traction upon the lower poles while the dissection was carried upward from the under side, but here we came directly down upon the internal jugular vein, the vagus nerve, and the carotid artery. From this point on the dissection was extremely slow due to the thin walls of the tumor and the close relationship with the jugular vein. As we progressed upward the tumor was found to saddle the jugular vein almost completely and include also the vagus nerve and the carotid artery (see Figure 4 for cross section schema), but fortunately there were

no adhesions other than loose areolar tissue in this region. As we progressed upward with the dissection we found that the tumor mass tapered off into very loose areolar tissue which was attached

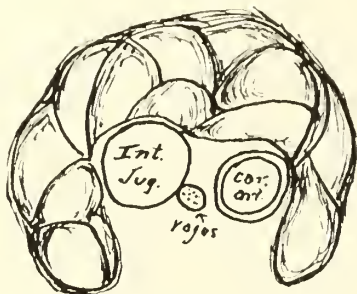


Fig. 4.

to the lateral process of the atlas. This portion did not seem to share the cavernous ramifications of the tumor proper, since no fluid was found. At this point the stalk was divided close into the periosteum of the transverse process, carbolized for several minutes, and finally neutralized with alcohol. The fascia was closed with chromic catgut, a subcuticular stitch was used to bring the skin edges together. The time required for operation was sixty minutes."

Figure 5 is a pen drawing illustrating the character and location of the tumor. Figure 6 is a cut section through the tumor; little cotton balls show the larger sinuses. After two years there are no indications of recurrence. The symptoms originally complained of have naturally disappeared, since they were purely mechanical in nature.

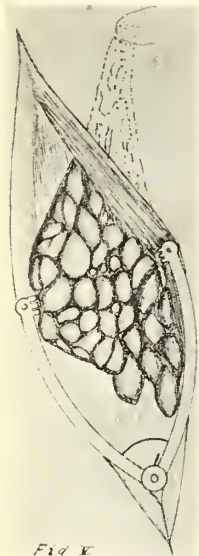


Fig. 5.

In conclusion we have a safe, logical manner of determining before operation the limits of these tumors, we have an interesting revelation as to the rapidity with which they communicate with the circulatory system. We have a further lesson to learn in that these tumors should never be injected with the view in mind of obliterating the sinuses, unless the chemical substance is

in itself perfectly harmless in the circulation. Theoretically I cannot even subscribe to this latter measure because, in the above case, if it had been readily possible to inject this tumor mass with an obliterating chemical without harm in the circulatory system, we would have produced scar tissue and a stricture of the internal jugular vein and



Fig. 6.

possibly the vagus nerve and the carotid artery as well. I am prompted to refer to the injection treatment of these tumors in this article because of a reference made in a standard textbook on general surgery to the use of phenol irrigations and pressure following the aspiration of the fluid.

MERCY HOSPITAL CLINIC

The Third Annual Clinic of Medicine and Surgery will be held at Mercy Hospital, Des Moines, Iowa, June 2 and 3. In 1935 the members of the staff and the Sisters of the hospital established the precedence of a clinic to be held for two days during the first week of June. Invitations were extended to members of the Iowa State Medical Society and the first guest speaker was Dr. Alfred W. Adson of The Mayo Clinic, Rochester, Minnesota. Last year the attendance increased and the guest speaker was Dr. Arthur E. Hertzler of Halsted, Kansas. This year the clinic will consist of demonstrations in general surgery; eye, ear, nose and throat; gynecology; neurosurgery; urology; orthopedic surgery, and plastic surgery. Clinical demonstrations and lectures in medicine and pathology will also be presented. The guest speaker will be Dr. Jay Arnold Borgen of The Mayo Clinic, Rochester, Minnesota, who will discuss "The Diagnosis of Intestinal Diseases" at a banquet to be held the night of June 2 at the Des Moines Club. The members of the staff and the Sisters extend a cordial welcome to any member of the state society who may wish to attend.

Case Report

A CASE OF MALARIA

E. E. MUNGER, M.D. and E. E. MUNGER, JR.,
M.D., Spencer

The patient, a male twenty years of age, born and raised in Clay County, Iowa, presented himself at our office August 9, 1935, at 9:30 A. M. The family and personal history was negative. The farmer who brought him to the office said he had wakened at 5:30 A. M., was nauseated and could not eat breakfast. A hard chill at 6:30 A. M. was followed by high fever and profuse sweat, the latter still being in evidence at 1:00 P. M.; he did not want his dinner. His friend and employer said he "would like to find out what is the matter with him." He appeared ill and weak, with a temperature of 99.2 degrees, and a pulse of 80. The physical examination, including urinalysis, was entirely negative, except that the spleen and liver were enlarged and palpable at the costal margins. The patient stated that he had been troubled with constipation.

Inquiry into past history revealed that on June 13, 1935, while working for another farmer in the same neighborhood, he felt ill and was nauseated all day. On June 14 he had his first chill, fever and sweat. He was in bed during the entire day on June 15, sick and weak, and with no appetite. A recurrence with severe chill took place on June 16 about twelve o'clock. During this time he was visited two or three times by another physician who made a clinical diagnosis of malaria; the temperature was said to have touched 105 degrees. At 5:00 P. M. he entered the Spencer Hospital with a temperature of 103.4 degrees, pulse 100, and respirations 32. His temperature was 98.6 degrees on June 17 and 18, pulse ranged between 60 and 80, and respirations between 18 and 24. He had received two ampules of quinine dihydrochloride. The patient was discharged from the hospital on June 18 at noon. He felt well and worked steadily to July 6, when he was "sick" and vomited, but experienced no chill. He saw his physician on July 7, and was given medicine which he took for two or three days. He felt well until August 5, 1935, when he was nauseated, but seemed to be all right on August 6 and 7, and worked during these two days. On August 8, he was nauseated again, and was brought to us on August 9, as previously stated, and again hospitalized.

On August 10 and for the next four days, the patient seemed well and normal, except for the

spleen and liver which were then palpable one inch below the costal margins. He thought it "was foolish to keep him in the hospital," and threatened to walk out. On August 12, the white blood count was 4,900. The hygienic laboratories at Iowa City reported on August 14, that agglutination tests were negative for undulant and typhoid fever. On August 15, at 12:30 A. M., he felt chilly but said he did not have a real chill; the temperature rose to 102.6 degrees at 5:00 A. M., the pulse was 78. At 7:30 A. M. he was perspiring profusely, and was still perspiring at 5:00 P. M. The temperature, pulse and respiration were normal during August 16 until 9:30 P. M., when he had a severe chill lasting ten minutes. Blood findings, made very soon after the chill, showed a red blood count of 4,000,000; a white blood count of 2,400; and hemoglobin, 70 per cent. Quinine sulphate, ten grain capsules, three times a day, was ordered at once. Blood smears made at the time of the count were stained with Wright's stain and the malarial parasite was demonstrated. The temperature, pulse and respirations gradually approached the normal; the patient had no more chills; and on August 26 he was discharged from the hospital with the splenic and hepatic enlargement subsiding.

During the stay of this young man in the hospital repeated inquiry was made as to possible sources of infection. There was no history or evidence of the occasional hypodermic source. He was born at Dickens, Clay County, Iowa, September 23, 1914; and moved with his family to Frankfort, Indiana, when he was four years old. After two years they returned to Clay County, Iowa, in 1920, and he has lived here continually since that time except for two months in the fall of 1930, which were spent in Sac County, working on a farm. In June, 1934, however, he hitch-hiked to Frankfort, Indiana, to visit for a month. From there he hitch-hiked to Willow Springs, Howell County, Missouri, where he spent the months of August and September, returning to Clay County in October, 1934. During his Missouri visit he spent much of the time in a covered wagon and herded cattle along Spring Creek, Howell County, among the Ozarks. Spring Creek has its origin in a spring high in the hills about half a mile above a large pond, surrounded by timber, through which the stream flows. During his stay near the pond he recalls having been "eaten up by mosquitoes and jiggers".

It happened that the senior author was going to Chicago on August 17, and took with him the stained and two unstained blood smears, on which the following analysis was made:

The Washington Boulevard Hospital

Blood Analysis

Blood slide of 8-21-35

E. E. Munger

Wright's stain

	Blood
Small lymphocytes	20%
Large mononuclears	3%
Polynuclear: Neutrophiles	67%
Eosinophiles	1%
Myelocytes (meta)	9%
Slide contained tertian malaria parasites of the gamete stage with an occasional ring form.	

E. Householder, M.D.

The authors corresponded with Dr. James C. B. Davis of Willow Springs, Missouri, in regard to the incidence of malaria in that vicinity, and received the information that "if your boy under discussion camped on any of the water streams, and was badly bitten by mosquitoes, he certainly had a good opportunity to contract malarial fever."

On September 4, 1935, the patient came to our office, said he had an "appetite like a horse", felt fine, and worked every day. His temperature was 98 degrees, pulse 86, the liver and spleen were not palpable, and the splenic dullness was slightly increased. Blood examination showed a red blood count of 5,630,000; a white blood count of 9,000; and hemoglobin of 70 per cent. The spleen was normal on September 19, 1935. The last report on this patient, dated February 5, 1937, is that he had been entirely free from any evidence of illness since he was last seen. His only treatment was quinine sulphate, ten grains, three times a day, for eleven days, and five grains, three times a day for four weeks.

COMMENT

"The only change in the leukocyte count is an increase in the percentage of the large mononuclear cells."¹ Our finding of a red blood count of 4,900 and a white blood count of 2,400 is at variance with the text. Comparison of the blood counts and laboratory report of blood analysis with the citation is for the critical judgment of students of malaria. "One striking thing about the history of attacks in malaria is the fact that almost all malarial chills occur during the day. It is extremely rare for a malarial chill to occur at night. A chill occurring during the night, therefore, is almost certain to be due to some disease other than malaria."² Unless the case reported is one of the extremely rare ones, or a wrong diagnosis has been made, some explanation may be proffered for the variance in the findings and the texts. The long incubation period, nine months, is worthy of note, inasmuch as he was not bitten by a single mosquito, but "nearly eaten up by both mosquitoes and jiggers."

During forty-two years of practice in this com-

munity, the senior author has not seen a proved case of malaria, nor until this opportunity had the satisfaction of looking at a malarial parasite. This lack of clinical and laboratory experience was quite disturbing, until on his visit to Chicago, he learned that several others had been equally unfortunate. Because of the simplicity and dependability of the "thin film method" of examining the blood for the plasmodia of malaria, it would seem an easy matter to make a technical diagnosis of this important disease.

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THE FINLEY HOSPITAL CLINICOPATHOLOGIC CONFERENCES

SPONTANEOUS RUPTURE OF THE HEART

F. P. McNAMARA, M.D., J. C. HANCOCK, M.D.
and C. C. COADY, M.D., Dubuque

In our series of 445 autopsies, coronary sclerosis and thrombosis with cardiac infarction has been the most frequent specific cause of death in so-called "heart disease". Indeed deaths primarily due to other forms of heart disease have been comparatively rare. Among thirty-seven cases of coronary disease there were three instances of spontaneous rupture of the left ventricle with hemopericardium. As a rule spontaneous cardiac rupture is a terminal event but occasionally it may be mistaken by clinicians for some acute abdominal condition. It is also of clinical interest because of its relationship to coronary sclerosis. The condition is of especial interest to pathologists because of the underlying pathology and also because of the medicolegal aspects which may be associated with this form of sudden death. The cases to be reported illustrate these points.

CASE REPORTS

Case 1, Autopsy No. 48: Two weeks before death, the patient, an obese white woman seventy-three years of age, was awakened at 3:00 A. M., and was unable to sleep thereafter. She became nauseated during the day and this persisted. About noontime she became very short of breath and had severe pain over the precordium and in each arm. When first seen a diagnosis of coronary thrombosis was made and she was sent to the hospital. There, with complete rest and

digitalis therapy she gradually improved for fourteen days and seemed on the road to recovery from the acute attack. However, she was found dead in bed on the fourteenth night in the hospital. At the autopsy aside from obesity and generalized arteriosclerosis the important findings were in the heart. The pericardial sac was filled with recently clotted blood. The source of the hemorrhage was a slit-like perforation of the anterior surface of the left ventricle. Surrounding the perforation was a softened, dull, edematous zone of infarction. The left coronary artery was sclerotic, the lumen was small and a clot completely occluded the lumen adjacent to the infarct. Microscopically, the clot was undergoing organization. The myocardium was undergoing degeneration and was infiltrated with large numbers of leukocytes. Along the line of perforation the myocardial cells were necrotic.

Case 2, Autopsy No. 167: The patient, an obese, railroad man sixty-four years of age, was found dead on the tracks. Externally there was a moderate sized laceration of the scalp. On opening the chest, fractures of the left sixth, seventh, and eighth ribs were found. The pericardial sac was filled with blood and the source of the hemorrhage was a narrow opening high up on the anterior surface of the left ventricle. There was generalized arteriosclerosis and the coronary arteries were narrowed. A dark, friable thrombus was found in the left coronary artery. The microscopic appearance of the myocardium was similar to that of the first case, although the inflammatory reaction and the evidence of necrosis were less pronounced.

Case 3, Autopsy No. 406: The patient, a moderately obese white man sixty-six years of age, had been treated for "chronic myocarditis". He retired feeling as well as usual, but was found dead in bed the next morning. At the autopsy the principal findings were in the cardiovascular system. There was generalized arteriosclerosis. The pericardial sac contained between three and four hundred cubic centimeters of recently clotted blood. The source of the hemorrhage was a slit-like perforation of the left ventricle two centimeters above the apex. The perforation was surrounded by dark red, friable tissue as well as by dense scar tissue. The left coronary artery was sclerotic and the lumen was too small to admit a fine probe. Microscopically the artery showed old organized clot and a recent thrombus. Some of the heart muscle was replaced by scar tissue and the remainder was infiltrated with large numbers of leukocytes. The cells showed signs of degeneration or were frankly necrotic.

COMMENT

In each case the patients were over sixty years of age, were obese, and had rather pronounced arteriosclerosis. Death was sudden or unexpected and in two instances occurred while the patients were asleep. In the first case the coronary thrombosis had been diagnosed and death resulted on the fourteenth day after the onset. In the third case there evidently had been a previous undiagnosed cardiac infarction which had healed by fibrosis. In the majority of cases spontaneous rupture follows exertion of some kind. According to Krumbhaar and Crowell¹ an explanation for death occurring during sleep is given by MacWilliams, who found that dreams or restlessness may cause the blood pressure to rise twenty to thirty points, which might easily be sufficient to rupture a necrotic myocardium. The second case was of medicolegal interest, since it was first thought that the patient had been injured while at work on the railroad. No evidence to that effect could be found and it was concluded that the bruise of the scalp and the fractured ribs resulted from the fall as the patient lost consciousness following the rupture of the heart. In this connection it is well known that patients may die suddenly while driving an automobile and that the car may go some distance before leaving the road or striking some object. The histologic picture of the myocardium in each case was similar differing only in the intensity of the inflammatory reaction. It is possible that the infarcts were infected but the sections were not stained for bacteria.

GENERAL DISCUSSION

Incidence: Spontaneous rupture of the heart is usually thought to be very rare, but it is probably somewhat more common than we realize. It is not without significance that since Herrick² called attention to the clinical importance of coronary disease it has been recognized with ever increasing frequency. Undoubtedly, many deaths listed as being caused by coronary thrombosis are actually due to cardiac rupture. In 1925 Krumbhaar and Crowell¹ collected 632 cases from the literature and added twenty-two of their own. Three years later Davenport³ supplemented their report with ninety-two additional cases and since that time there have been fairly frequent reports. In regard to autopsy statistics Locke⁴ states that there were six cases in 9876 autopsies in two large Boston hospitals. We have had three instances in the last nine years among 445 autopsies. While our statistics are very small and therefore inconclusive, they indicate that cardiac infarction terminates in

spontaneous rupture in approximately ten per cent of the cases.

Site of Rupture: The following combined figures of Krumbhaar and of Davenport show that the wall of the left ventricle is the most frequent site of spontaneous cardiac perforation:

	No. Cases	Per cent
Right Auricle	38	5.3
Left Auricle	13	1.8
Right Ventricle	76	10.7
Left Ventricle	566	79.8
Miscellaneous	17	2.4

Clinical Data: In Krumbhaar's analysis there were 304 males (58.3 per cent) and 217 females (41.7 per cent). The age distribution is indicated by the combined figures of Krumbhaar and of Davenport.

Decennials	No. of Cases	Per cent
Aged	30	4.4
80's	58	8.4
70's	195	28.4
60's	217	31.6
50's	92	13.4
40's	49	7.1
30's	25	3.6
20's	8	1.2
10's	8	1.2
1-10	5	0.7

It will be noted that the largest number of cases occurred in the sixties and seventies. This confirms the opinion that spontaneous rupture of the heart is characteristically a disease of old age. In the younger groups acute infections, lues, and trauma were prominent etiologic factors; whereas, in the aged coronary disease is of fundamental importance. In young persons embolic abscesses may result in rupture.

Exciting Causes: Obesity, arteriosclerosis and intemperate habits of eating and drinking are recognized as predisposing factors. There are manifold exciting causes and Krumbhaar lists the following:—eating, fourteen cases; walking, thirteen; defecation, ten; while conversing, five; getting out of bed, six; emotional excitement, five; at toilet, five; trauma, three; convulsion, three; attack of angina, three; violent exertion two; sitting up in bed, dressing and so forth, nine. Five were, as far as known, perfectly well until they

suddenly fell over dead. Twenty-one died while asleep.

Premonitory Symptoms: The premonitory symptoms of cardiac rupture are similar to those of coronary disease. Anginal pain, diarrhea, vomiting or attacks of vertigo, cough, dyspnea, and syncope have all been described as preceding the rupture, but also occur in cardiac infarction without rupture. Apparently in some cases no preliminary symptoms precede the rupture.

Terminal Symptoms: The terminal symptoms of rupture come on very suddenly and clinical diagnoses are therefore exceedingly rare. Three-fourths of the patients die almost instantly or within ten or twenty minutes. A few cases have been reported in which death was thought to have occurred eight to eleven days after the rupture. It is more likely that these periods included the time from the onset of the infarction until rupture took place (as in Case 1). The onset of terminal symptoms is usually abrupt and is accompanied by severe pain in the cardiac region or it may be localized in the epigastrium. The pain is usually agonizing and is described as being "tearing", "boring", or as a "great pressure". Dyspnea, cyanosis, nausea, vomiting, pallor, convulsions and evidences of collapse are also common symptoms. In the few cases in which physical examinations were made, evidences of increase in the size of the pericardium were made out. The heart beat was irregular, rapid, and weak. The heart sounds were often tumultuous but not distinctive. According to Locke⁴, Reznikoff described the murmurs as being a "continuous muffled, low pitched, rushing rumble."

CONCLUSION

Spontaneous rupture of the heart in the aged is usually a terminal event in patients with coronary sclerosis, thrombosis and cardiac infarction. It involves the wall of the left ventricle in three-fourths of the cases. Death quickly follows rupture and antemortem diagnoses are exceedingly rare. Because of this fact and in order to make vital statistics as accurate as possible, postmortem examinations are essential in every case of sudden death.

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STATE DEPARTMENT OF HEALTH



IOWA PUBLIC HEALTH ASSOCIATION PROGRAM

Physicians are cordially invited to attend the eleventh annual meeting of the Iowa Public Health Association, to be held at the Fort Des Moines Hotel, Des Moines, Iowa, May 20 and 21, 1937.

The tentative program for this meeting, which will be of special interest to attending physicians, nurses, voluntary health workers and health officers, is as follows:

Thursday Morning West Ball Room

Rev. J. S. Deedrick, Waterloo, Iowa, Second Vice President, Iowa Public Health Association, presiding

- 9:00 Registration
- 9:45 Welcome to those in attendance—Honorable Nelson G. Kraschel, Governor of Iowa, Des Moines, Iowa.
- 9:55 Reading of Minutes—Announcements
- 10:05 Extension of Health Services Through State, Local and Federal Resources—Walter L. Biering, M.D., State Health Commissioner, Iowa State Department of Health, Des Moines, Iowa.
Symposium on Convalescent Serum
- 10:25 Development of a Serum Center in Iowa—Carl F. Jordan, M.D., Director, Division of Preventable Diseases, Iowa State Department of Health, Des Moines, Iowa.
- 10:45 Demonstration—Processing of Convalescent Serum—Paul Stephen, M.D., Assistant Epidemiologist, Iowa State Department of Health, Des Moines, Iowa.
- 11:05 The Value of Convalescent Scarlet Fever Serum—Jack Treynor, M.D., Council Bluffs, Iowa.
- 11:25 The Recognition and Management of Poliomyelitis—Lee F. Hill, M.D., Des Moines, Iowa.

Noon Luncheon Meeting 12:30—Tropical Room

Dr. Bierring presiding

Protection of Public Health as an Essential Governmental Function—Honorable Joseph H. Allen, Mayor, Des Moines, Iowa

Afternoon Session West Ball Room

- F. W. Kiesau, M.D., Postville, Iowa, President, Iowa Public Health Association, presiding
Symposium on Syphilis and Gonorrhea
- 2:15 Echoes of the Venereal Disease Conference in Washington, D. C.—R. E. Jameson, M.D., Davenport, Iowa
- 2:30 Syphilis in Relation to Pregnancy—E. D. Plass, M.D., Professor of Obstetrics, State University of Iowa, Iowa City, Iowa

- 3:00 The Management of Congenital Syphilis—P. C. Jeans, M.D., Professor of Pediatrics, State University of Iowa, Iowa City, Iowa
Discussion—10 minutes

- 3:40 The Attending Physician in the Control of Syphilis—O. W. King, M.D., Des Moines, Iowa
- 4:00 Method of Control of Gonorrhea—Erwin Schenck, M.D., Des Moines, Iowa

- 4:20 The Clinic in the Control of Syphilis—E. G. Kieck, M.D., Cedar Rapids, Iowa
Discussion—10 minutes

- 4:50 Film—"For All Our Sakes"

Evening Session West Ball Room

Dr. Bierring presiding

- 7:00 NOPHN Silver Jubilee Banquet
Twenty-five Years of Progress—Dorothy Deming, R.N., General Director, National Organization for Public Health Nursing, New York City, New York

Friday Morning West Ball Room

Bess Cunningham, R.N., First Vice President, Iowa Public Health Association, presiding, Oskaloosa, Iowa

- 9:00 Panel Discussion. Leader—Dorothy Deming, R.N.

Phases of Community Public Health Nursing Services

Maternal and Child Health—Joseph H. Kinnaman, M.D., Director, Division of Child Health and Health Education, Iowa State Department of Health, Des Moines, Iowa

School Nursing Services—Elvira Dolan, R.N., Director, School Nurses, Dubuque, Iowa

Visiting Nursing Services—Adah Hershey, R.N., Director, Public Health Nursing Association, Des Moines, Iowa

Tuberculosis Control—Margaret Colgan, R.N., Director, Visiting Nursing Association, Council Bluffs, Iowa

Venereal Disease Control—Bertha Harvey, R.N., Director, Visiting Nursing Association, Davenport, Iowa

Crippled Children's Service—Sophia Potgieter, R.N., Orthopedic Field Nurse, Iowa Crippled Children's Service, State University of Iowa, Iowa City, Iowa

Board Members and Lay Participation—Mrs. Lee F. Hill, Past President, Board of Directors, Public Health Nursing Association, Des Moines, Iowa

- 10:45 Group Discussion and Summary—Dorothy Deming, R.N.

- 11:15 Executive Session

REPORTING OF SYPHILIS MOVES UPWARD

Iowa physicians are participating to a remarkable degree in the renewed advance against syphilis. This fact is nowhere more apparent than in the improvement in reporting of cases of syphilis and gonorrhea during the early months of this year. The accompanying line graph (see Fig. 1) compares the reporting of syphilis in 1937 with

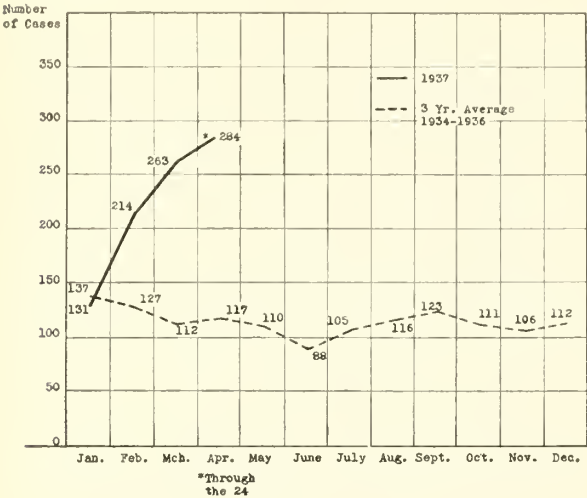


Fig. 1.

REPORTING SYPHILIS IN IOWA

Comparison of reported cases for first four months of 1937 (through April 24), with the three year average for 1934-1936.

that of the three preceding years. It will be noted that the dotted line in the diagram remains at a uniformly low level. The figures 137, 127, 112, etc., represent the arithmetic average of the number of cases reported for January, February, March, etc., for the three-year period 1934-1936. The solid line shows the number of cases of syphilis reported during the first four months of 1937 (through April 24). In January, only 131 cases were reported, a figure below the average for 1934-1936. In February, however, a sharp rise occurred; by March, reporting of cases had more than doubled the three-year average, and a still further increase in reporting occurred in April. During the first four months of 1937 (through April 21), reported cases of syphilis totaled 869, as compared with 402 cases for the same period in 1936. Along with this significant increase in reporting of syphilis, there has also been definite improvement in notification of cases of gonorrhea. Reported cases of gonorrhea numbered 651 (through April 21, 1937) as compared with 468 cases for the corresponding period a year ago. For a comparison of reports for March, 1937, with those of 1936, see the monthly morbidity report on page 216.

Reported Stages of Syphilis

Copies of the new venereal disease report forms of the Iowa State Department of Health were forwarded to physicians beginning February 25, 1937. Most of the report forms returned by physicians reporting cases, contain definite information pertaining to the stage of syphilis at the time of report. This information has been taken from a series of 434 records of cases reported in March and April of this year. The accompanying bar graph (Fig. 2) shows the relative number and percentage of cases reported in the primary, secondary, latent, late, neurologic and congenital stages.

As outlined in the March number of the JOURNAL, on pages 115 and 116, the State Department of Health places certain antisyphilitic drugs at the disposal of physicians, following receipt of the report of syphilis in its communicable or potentially communicable stages. In a series of 403 cases of syphilis reported during recent months, patients were classed as indigent or near-indigent in 244, or 61 per cent of instances, and as non-indigent in 159, or 39 per cent of the cases.

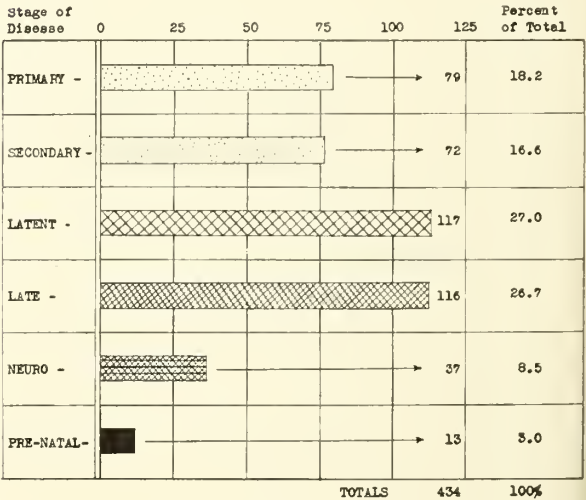


Fig. 2.

SYPHILIS ACCORDING TO REPORTED STAGE OF DISEASE

Graph based on a series of 434 cases reported in Iowa during January, February, March and April (21 days), 1937.

Continued Interest in Reporting Desired

The department desires to express appreciation to attending physicians for their cooperation in the reporting of cases of venereal disease. With continued interest on the part of physicians and with laboratory diagnostic facilities made more readily accessible, Iowa will continue to move upward and to play an important part in the nationwide struggle against syphilis.

Administration of District Public Health Services*

REGNAR M. SORENSEN, M.D., Medical Director,
Health District No. 1, State Department
of Health

The health and physical welfare of its people have always been matters of vital interest to federal, state, and local governments. More than twenty-five years ago one of the first full-time rural health services was started in Yakima county, Washington. More than ten years ago the need of full-time rural health service for Iowa was recognized. On January 13, 1927, the late Governor Hammill, in his inaugural address said, "As Iowa's health problems are largely rural and must therefore be solved by health activities in the field; and as experience shows that in order to do this economically and efficiently, it is necessary to have full-time, qualified service, it is suggested that provision be made for such service in the state of Iowa. The natural unit, or area, of sufficient size to warrant full-time service is the county, and the establishment of such units becomes not only protection, but a measure of economy. The state would be true to its functions by aiding counties to get them established."

For many years workers with the Rockefeller Foundation have done great work in the southern part of the United States. They not only have reduced the amount of yellow fever, malaria, and hook worm, but for many years have actively engaged themselves in rendering financial aid to local communities for the establishment of full-time health services. The United States Public Health Service has always been interested in local health services, but has lacked the finances with which to render aid to states and counties. There has been a gradual growth of the realization on the part of our federal government that it owes something to the local communities in addition to furnishing them with a multitude of laws.

There were two ways in which the federal government could discharge this obligation. First, it was possible to enlarge the United States Public Health Service to such a size that it could give service to the local communities. This solution was hardly practicable, however, since it was felt that health service would still not be brought as close to the people as it should be. The second method was to provide aid to a local community in the form of financial grants for the establishment of local health services. It was not until the passage of the Social Security Act on August 14, 1935, that this method of bringing public health service

to a local community was possible. Under Title VI of the Social Security Act, eight million dollars were appropriated "for the purpose of assisting states, counties, health districts, and other political subdivisions of the states in establishing and maintaining adequate public health services".

It is well to point out that public health has no connection, except an incidental one, with indigency. Public health service is for the public with no distinction between "rich public" and "poor public". Another point that may well be brought out is the fact that although local public health service is made possible through Title VI of the Social Security Act, it does not necessarily follow that the plan is either "New Deal" or carries the "trade mark" of any political party. Title VI, itself, was written by the state and territorial health officers. The Social Security Act is what is commonly known as an omnibus bill and the public health section was included as a matter of expediency.

It has long been recognized that public health is not a service which can be performed efficiently by long range direction. In order for a community to have the full benefits of a public health service that service must be brought directly to the people and brought to them in the environment in which they live. Even a state is handicapped in bringing that service close enough to its people. Since the county is the natural subdivision of the state, it logically follows that a county is the logical unit for local health service. However, it is not economically feasible for many counties to carry on a full-time health service for the present, at least. It would seem that a combination of counties would be the logical solution. By pooling the interest of several adjoining counties into a district, each county has the advantages of a full-time local health service with a lower per capita cost. Not only does it seem financially sound to give the service at the lowest possible cost, but a district has the added advantage of being able to coordinate the public health activities in several counties. With something of this in mind, Health District No. 1 was formed.

In each of the six counties included in Health District No. 1; namely, Cherokee, Lyon, O'Brien, Osceola, Plymouth and Sioux, there has been placed a full-time public health nurse. Each public health nurse in a county is required to be specially trained in public health nursing. This qualified public health nurse gives a generalized public health nursing service to the county. Home nursing care is taught, either by actual demonstration in the home during an illness, or through classes. The nurse assists in the control of communicable diseases, including tuberculosis, syphilis

* Presented before the Northwest Iowa Medical Society, Sheldon, April 30, 1937.

and gonorrhea. Expectant mothers are taught the hygiene of pregnancy, and helped with their plans for delivery and after care. Following the delivery, the care of the mother and her baby is demonstrated. All care is given with the permission and under the direction of the attending physician. Schools are visited for the purpose of reducing the incidence of communicable disease, to assist the teachers with their health programs, to teach classes of home hygiene and care of the sick, and to detect physical defects and urge their correction by the family physician. The county nurse is available for talks on health subjects. She cooperates with the county medical society in projects such as vaccination and immunization campaigns. The medical policies of each county nursing service are recommended and interpreted by a medical advisory committee which consists of three physicians appointed by the county medical society. A similar committee of three dentists appointed by the county dental society recommends and interprets the dental policies. The central nursing committee and three to five subcommittees direct the general activities of this nursing service.

For purposes of administration, a district health office is established. The personnel, all properly qualified, consists of a director, who must be a physician with special training in public health, a qualified public health engineer, a qualified supervising public health nurse, and a secretary-clerk. The function of the district health office is to carry out all of the activities for and under the direction of the State Department of Health in the district in which it is established, with the main emphasis being placed upon the education of the public in matters pertaining to their health and physical welfare.

The director of the health district, aside from being charged with the direction of all public health activities in the district, is responsible for the coordination of the activities of all health officers within his jurisdiction. He assists the health officer in the control of communicable diseases and in case of epidemics, helps the local health officer in getting reports of the various diseases which occur in his area. It is his duty to cooperate with local registrars and receive reports of births and deaths from them. He is available for talks to lay and professional groups for the purpose of informing the public in disease prevention anywhere in the district.

The public health engineer deals with any phase of sanitation which might have an effect upon the health of the public. He makes inspections of, and recommendations for, the improvement of public, semi-public, and private water supplies.

He is available for advice in the matter of adequate sewage disposal facilities, both as to operation of present systems and the construction of new systems. In addition, he is qualified to give advice concerning heating, lighting, and ventilation which often become problems in our rural schools. He receives reports of, make investigations of, and submits recommendations for the correction of nuisance complaints, such as garbage and refuse disposal, which in one way or another, may affect the public health. The public health engineer endeavors to promote interests in an adequate and safe milk and food supply for the community. He is available for talks before civic and professional groups in the interest of better sanitation for the communities.

The public health supervising nurse is responsible, as her title indicates, for the supervision and coordination of the activities of the various county public health nurses. She likewise is available for talks to lay or professional groups.

By the establishment of Health District No. 1, it is hoped that the people living within its area will become a healthier and happier people. Through the services of Health District No. 1 it is possible to reduce still further the number of deaths from tuberculosis; to decrease the number of days lost from school and work as a result of illness; and to reduce the number of cases of syphilis, and the disabilities resulting from syphilis. Public health is designed for the prevention of disease, the protection of those not now sick, rather than for treatment or cure. Many dollars are spent each year by every community for the treatment of various diseases. Comparatively small amounts of money spent each year for the prevention of these diseases will in time reduce the cost to the community for the treatment of disease and will decrease the financial loss sustained by the people through illness.

PREVALENCE OF DISEASE

Mar. '37 Feb. '37 Mar. '36			Most Cases Reported From
Diphtheria	15	17	46 Des Moines, Black Hawk, Decatur
Scarlet Fever	1585	1166	978 Polk, Black Hawk, Woodbury
Typhoid Fever	3	1	10 Polk, Henry, Washington
Smallpox	150	140	78 Webster, Wapello, Wright
Measles	12	11	12 (For State)
Whooping Cough	211	94	58 (For State)
Cerebrospinal Meningitis	4	6	13 Guthrie, Muscatine, Polk
Chickenpox	285	239	227 Boone, Dubuque
Mumps	154	124	1062 (For State)
Influenza	45	587	36 Cedar, Boone
Poliomyelitis	4	3	1 Cass, Keokuk, Monroe, Polk
Tuberculosis	53	36	28 (For State)
Undulant Fever	12	6	4 (For State)
Gonorrhea	197	188	106 (For State)
Syphilis	262	214	76 (For State)

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Iowa State Medical Society

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THE NEED FOR COOPERATIVE PLANNING

In the opinion of the JOURNAL the most important problem facing the medical profession today is how far governmental interference in the practice of medicine is likely to proceed before the present urge for social and economic reform is exhausted or turned into other channels. Judging from conversations heard in hospital cloak rooms, or wherever two or more physicians chance to gather, the subject is also one of vital interest to Iowa medical men. Such expressions as “entering wedge of social medicine” or “it won’t be long now before we’ll all be working for the government”, accompanied by much dubious shaking of heads, are heard with sufficient frequency to indicate that the situation is being viewed with apprehension, if not alarm.

It cannot be denied that there is some basis for such fears. The period is one of nationwide reform. “Reformers” and “socializers” are in the saddle and riding hard. The old established order is undergoing a rapid revolutionary change. It seems inevitable that health, inseparably linked as it is with the other basic necessities of life, that is, food, shelter, and clothing, should come in for a fair share of attention on the part of those engaged in the reforming movement. Already we have seen old age insurance, and unemployment insurance enacted into law by the government in Washington. Is health insurance on a nationwide scale, with its inevitable accompaniment of government employed physicians, the next step? It may be. Certainly one sees increasingly frequent references to such a possibility made in the press, and some writers of syndicated news columns have even suggested that the medical profession “now presumes to oppose a social advance calculated to make medical service and care available to millions

who lack it.” We are not in possession of sufficient information to enable us to express an opinion as to how great the danger is from this quarter, but we are of the opinion that if such a reform got under way it would be difficult, if not impossible, to stop.

Physicians with whom we have talked do not seem entirely satisfied about the programs which call for expenditure of federal funds for medical projects within our state. They are inclined to look upon the activities conducted under the Social Security Act, maternal and child health, services to crippled children, and child welfare, and the more recent public health ventures in venereal disease control and county health unit organization, as threatening to the security of private practice. Their chief objection seems to be not so much to the activities in themselves, as to the fact that they are being financed with federal funds and therefore more or less under governmental jurisdiction from Washington. They fear the constant increase in government controlled services may lead to the establishment of a skeletal framework which could be called upon to function in full capacity in the event of socialization of medicine.

While the Journal believes that this attitude is rather general among the practitioners in Iowa, it feels, however, that there is another side to the question which ought in all fairness to be examined. It must be admitted that physicians, busily engaged in the problems attending their individual private practices, have frequently failed in their duties as guardians of the community health to assume leadership in establishing health practices on a level consistent with present medical knowledge. Certainly, Iowa cannot boast of its record in smallpox and diphtheria control, to use simple examples of conditions which lie in the borderland between public health and private practice domain. If we in our county medical societies fail to perform these tasks as the public has a right to expect of organized medicine, we are not in a favorable position to raise objections when governmental agencies step in to assist in doing this work. The dividing line between public health and private practice is not clear cut. May it not be that the “reformers” would have less ammunition with which to shout their claims of inadequate medical care if organized medicine and public health officials united their efforts in planning and putting into effect such measures as are distinctly of a medical public health nature? There is, then, the point of view that increasing public health activities provide the entering wedge of state medicine, and there is also the view that increasing cooperative health activities undertaken

by the health department and organized medicine may be an important means by which the socialization of medicine may be prevented.

We believe these problems merit the most serious consideration by every physician in Iowa, individually, and by the society as a whole. Individually physicians can exert a vast amount of influence by informing themselves accurately of the advantages of the American system of medical practice over any other system ever devised, and by spreading this information among their lay acquaintances and their law making representatives, both state and national, to the end that regimentation of medicine by legislative action may be forestalled. County societies should assume active leadership in community health activities. In the final analysis, the county society is the basic unit of the entire medical organization, and if the needs of the indigent and of the low income group were met in each county, and if efforts were being made to provide a high standard of preventive and curative service, the present outstanding economic problems of medicine would vanish into thin air.

It seems to us that the Iowa State Medical Society might well assume the task of formulating a policy toward the extension of public health projects, whether financed from Washington or otherwise, which would permit the development of all improvements in quality and extent of medical service to which our people are entitled, but at the same time would retain and exercise a cooperative leadership, effectively removing the fears of its members as to the dangers of state medicine. We are fortunate indeed, in Iowa in having a Commissioner of Health who is first of all a physician. As long as he remains in office the right of the private practitioner of medicine will be respected; but the future security of medicine lies in planning for the future. The demands of society for progressive reform in matters which affect the public health must not be ignored. The needs in Iowa are not necessarily the needs in other parts of the country. Planning must be made consistent with conditions as they exist here, in one of the richest states in the union. The fact that other states are inaugurating these public health programs through the aid of federal funds does not make it obligatory for Iowa to follow suit. The economic needs of these other states may be such that only by accepting federal funds are they able to conduct these programs. Since Iowa is one of the more wealthy communities, it would seem that she is in a position to establish an adequate public health program by drawing on the state's own resources.

Let us not, as a medical organization, be ob-

structionists to medical, social, and economic changes, but rather let us assume responsibility in assisting to chart the course we wish these changes to take; for then and then only can we complain if our good ship flounders on the reefs of socialized medicine.

ON TO ATLANTIC CITY

Probably any mention of the American Medical Association convention in Atlantic City from June 7 to 11 is superfluous to the readers of the JOURNAL. Nevertheless we wish to take this opportunity of paying our respects to the annual meeting of the greatest medical organization in the world. Surely no one can attend this stupendous display of scientific achievement, and come away without a feeling of pride that he is a member of a fraternity which is accomplishing so much in the interests of human welfare. Here, will be spread before you in the scientific and commercial exhibits, and in the lectures and addresses in all branches of medical practice, the most authoritative and the most up to date information that human endeavor can assemble in the interests of postgraduate education.

To those who fail to attend the conventions of the American Medical Association on the excuse that they can read the papers when they are published, we would reply they can, but will they? To hear and see the author present his subject creates an interest which is not obtained by merely reading the published article. To those who take the position that the scientific exhibits alone are worth the time and effort spent, we offer a hearty amen.

In the lighter vein, mention should be made of the American Medical Golfing Association, which will hold its twenty-third annual tournament at beautiful Seaview Country Club, Atlantic City, on Monday, June 7. Thirty-six holes of golf will be played in competition for the seventy trophies and prizes in the nine events. All male Fellows of the American Medical Association are eligible and cordially invited to become members of the American Medical Golfing Association. Participants in the tournament are required to furnish their home club handicap, signed by the club secretary. They should communicate with the Executive Secretary, Bill Burns, 2020 Olds Tower, Lansing, Michigan. Only active members of the American Medical Golfing Association may compete for prizes.

As an incentive and a stimulus to the better practice of medicine the session in June offers a means second to none. So we would say to our Iowa readers—put a liter of gas in the old "fliv" and point her toward Atlantic City. The fish will still be biting when you get back.

Linn County Medical Relief Clinic

Editor's Note—The dissatisfaction of the Linn County Medical Society with the medical relief set-up of the Iowa Emergency Relief Administration as it operated in that county in 1935, led the members to design a plan which would meet with the approval of the physicians and at the same time render a high class of medical service to the indigent sick. Their Medical Relief Clinic has now been in operation for more than a year, and has been commended highly by state relief authorities and by their own Board of Supervisors. Inquiries regarding their plan have been numerous and the Journal is pleased to publish a report of the set-up as prepared by the Director of the Linn County Medical Relief Office, H. M. Ivins, M.D.

Medical relief expenses in Linn county are taken care of by the County Board of Supervisors, who guarantees the doctors \$3,200.00 each month for their services in rendering full medical care to the indigent sick. This sum is obtained through two channels; the state allows \$1.50 for medical care for each family on the active relief rolls during that particular month, and the county makes up the balance. Naturally the amount paid by the state varies from month to month, as the number on the relief rolls fluctuates. Medical care is rendered to any person in Linn county who has been authorized by the Linn County Relief Department as eligible for relief. Any family having such authorization is then eligible for any type of medical care which is indicated. The actual care of these patients necessarily is divided into several classifications; namely, clinic care, care in the home, and care in offices.

1. Clinic Care. Ambulatory patients are seen in the general clinics, which are held during the afternoon. If specialized care is indicated, the patients are then referred to the special clinics, which are held during the morning. All patients who have been advised by their family physicians to go to Iowa City at the expense of the state are seen by an internist, who acts in an advisory capacity. Many of these patients can be handled locally at small expense. In this way the quota may be used to a far greater advantage not only from the standpoint of the county, but from the standpoint of the patient and the University Hospitals as well.

2. Care in the Home. Any call from a patient at home is answered day or night, after it has been ascertained that the patient is unable to come to the clinic. The doctors who serve on house call duty are called in rotation by the Medical Relief Office during the day, and by the Physicians Exchange during the night. When a doctor is assigned to a case of this nature, he completes the follow-up service if more than one house call is necessary. The doctors are paid \$2.50 for calls made after 7:00 P. M., \$2.00 for the first call during the day, and \$1.50 for each succeeding call.

3. Care in Offices. Some patients may be di-

rected to individual doctors' offices for some special treatment (x-ray, laboratory, special types of work, etc.), but these patients must be referred by the clinic.

Compensation to the physicians for their services is effected in two ways; namely, on the basis of a flat fee, or on the unit system. We pay sixty cents a unit, and all fees are based upon one-third of the ordinary ethical fee. We pay fifty units for an appendectomy and five units for the aftercare. At sixty cents a unit this makes \$33.00, to which is added an additional \$5.00 (flat fee allowed for the anesthetic), making the total bill amount to \$38.00, which is approximately one-third of the regular appendectomy fee. Compensation for all operations and for the majority of the hospital work is so based. The unit system was used for surgery because it was easier to take up or let out slack in the surgical field. Some counties do not pay for surgery, since it is felt that the surgeons receive compensation in the form of experience, but we have avoided that arrangement in Linn county.

In the year 1935, under the Iowa State Medical Relief Plan, bills were paid in full to all claimants except the doctors, who received what was left in the relief funds budget. This meant that in one particular month the physicians received only twenty-one per cent of bills which had been submitted on a relief basis in the first place. In other words a doctor who made a night call at the medical relief rate of \$1.50 was actually paid thirty-two cents. At the end of the last ten months in 1935 there had been paid to the doctors of Linn county, \$11,000.00 for medical relief work. Out of that sum \$5,000.00, or nearly one-half, was paid to a minority group of twelve, while the remainder was divided among approximately eighty-five doctors. In 1936 medical relief checks were made out to approximately one hundred doctors in Linn county, and the total sum paid to the medical profession was \$22,769.00. This last item, representing more than double the 1935 payment, gives some idea of the way in which the doctors had been victimized by permitting all bills for medicine to be paid in full before the doctors

were compensated. The records show that in drug bills alone, our new plan has effected a saving to the doctors of about \$300.00 a month.

Space does not permit a lengthy financial statement. That information is available to any one seeking it at the Linn County Medical Relief Clinic. The books are always open to proper authorities and are kept up to date. There is included, however, a brief statement for 1936. In calling attention to this we should like to stress the fact that the physicians have not attempted to obtain more than their just compensation on a reduced fee schedule. This is evidenced by the fact that at the end of the year when we had a surplus in the funds allotted for medical relief care, this surplus was returned to the Board of Supervisors.

Our idea of a medical plan has never been to give cheap inefficient service that might be labeled as "good enough for those who get it". We intended in the beginning to accomplish a few definite things, and these should be clearly understood. Our purposes were:

1. To establish a clinic.
2. To give to the indigent sick, through this clinic, the best medical service possible, consider-

ing the type of patients and facilities with which we have to work.

3. To give this service under supervision and as economically as possible to the taxpayers.

4. To see that every doctor rendering such service should be paid on a fair medical relief basis (about one-third the regular, ethical medical fee), and that such payments are in the hands of the doctors by the fifteenth of the month following the date on which such services were given.

5. To divide the clinic into definite departments, such as pediatrics, chest, nervous and mental, gynecology, venereal diseases, etc.; each department to be headed by men especially interested in the given division. In addition to the special clinics, there must of necessity be daily general clinics to care for minor ailments and to apportion patients to the proper special clinics.

6. To render home and hospital service where such service is indicated.

7. To make and file definite case records, including tuberculin and Wassermann tests, to the end that we may some day have a record of these tests for every member of families in the indigent group.

8. To keep a complete financial record of every

LINN COUNTY MEDICAL RELIEF OFFICE

SUMMARY OF RECEIPTS AND DISBURSEMENTS—YEAR OF 1936

RECEIPTS					ACCUMULATIVE MONTHLY BALANCES				
1936	Allotment Board of Supervisors	Miscellaneous Collections	V. D. Col.	Total					
January	\$ 3,200.00		\$ 25.80	\$ 3,225.80	January			\$ 709.52	
February	3,200.00		31.30	3,231.30	February			894.43	
March	3,200.00		23.30	3,223.30	March			696.26	
April	3,200.00		39.50	3,239.50	April			787.58	
May	3,200.00	\$ 49.55	28.05	3,277.60	May			1,612.58	
June	3,200.00		31.30	3,231.30	June			2,229.48	
July	3,200.00	14.50	28.10	3,242.60	July			3,110.14	
August	3,200.00	33.00	27.90	3,260.90	August			3,342.01	
September	3,200.00	45.00	21.05	3,266.05	September			4,058.20	
October	3,200.00		32.90	3,232.90	October			4,585.40	
November	3,200.00		53.20	3,253.20	November			4,900.08	
December	3,200.00	26.00	66.50	3,292.50	December			4,891.16	
Total Receipts ..	\$38,400.00	\$168.05	\$408.90	\$38,976.95					

DISBURSEMENTS							
1936	Service Mileage	Glasses	Medical Drug, Sup.	Salaries	Office Misc. Exp.	V. D. Clinic	Total
January	\$ 1,651.42	\$ 23.80	\$ 288.17	\$ 409.56	\$ 143.33		\$ 2,516.28
February	2,087.10	45.66	418.89	420.75	74.01		3,046.39
March	2,408.69	89.40	276.41	500.00	146.97		3,421.47
April	2,170.30	55.46	255.05	500.00	167.37		3,148.18
May	1,712.90	52.10	156.41	500.00	31.19		2,452.60
June	1,578.24	49.79	444.63	500.00	41.74		2,614.40
July	1,508.35	37.78	212.05	520.00	83.76		2,361.94
August	2,056.85	59.05	333.67	475.00	104.46		3,029.03
September	1,788.90	65.00	157.42	485.00	53.34		2,549.86
October	1,808.95	58.36	219.64	505.00	113.75		2,705.70
November	1,914.62	40.13	227.50	485.00	50.20	\$221.07	2,938.52
December	2,083.60	55.21	194.93	489.05	221.18	257.45	3,301.42
Total							
Disbursements ..	\$22,769.92	\$631.74	\$3,184.77	\$5,789.34	\$1,231.50	\$478.52	\$34,085.79

transaction and to have the books audited by authorized auditors.

In checking up on the work done by the Linn County Medical Relief Clinic for 1936, we are able to say that every one of these essential features have been put into operation and have been enforced approximately one hundred per cent.

The details of our plan cannot be adequately explained in such a short report. The director of this clinic has visited a number of "medical set-ups" over the state, and our clinic has been visited by a few county supervisors from other counties. We have had many questions asked, and many ideas advanced. As a result we have learned many things. One of the outstanding reactions is that the Iowa State Medical Society should make a decided effort to formulate a directing plan that would tend to put all medical relief programs on a more uniform basis, yet one which would be elastic enough to meet the individual needs of each community. This state model could not set out the details for each society, but it could recommend the organization of high class medical clinics in urban districts, and work out appropriate plans for rural counties.

The organization of the medical relief plan in Linn county has demonstrated that the most serious revolt against organization can be overcome if it is approached in the right way and handled by committees properly chosen, and of a high, ethical trend of mind. It stands to reason that any attempt to force upon sixty to one hundred doctors any type of planned medical care without the proper setting is doomed before it is started. Any "take it or leave it" idea is sure to be left. Medical men are intelligent; but they have lost faith. However, fair play appeals to all of us. The greatest problem in establishing a project of this type is to prove to physicians participating in the program that those in charge of it are sincere and trustworthy. This cannot be done singlehandedly; but requires the combined efforts of a few outstanding men who have confidence. In our county this was successfully accomplished and the doctors are now convinced that the only workable and satisfactory plan is one which provides "the greatest good to the largest number".

Success is a variable quality, and depends to a large degree on the desired end result. Some other group might have been able to make a better financial report than was made by our clinic, or we may do better now that our clinic is well established; but our primary object was not that phase

alone. We wished to set up a plan of medical care which would guarantee the best possible service to our patients, and at the same time protect the doctors from being discriminated against in the matter of remuneration for their work, as has been done in the past. Viewing our experience during the past year in that light, we, the members of the Linn County Medical Society, feel justified in stating that we have been successful in working out a solution to this perplexing and troublesome problem.

THE EARLY DIAGNOSIS CAMPAIGN

This year marks the tenth anniversary of these annual publicity campaigns, conducted by the national and state tuberculosis associations, and designed to educate the public in the early signs and symptoms of tuberculosis. The slogan for the 1937 campaign is "Uncover Tuberculosis with Modern Methods". This theme will be stressed in leaflets, speeches, radio presentations, and newspaper publicity, in an effort to detect tuberculosis in its early stages when one can be reasonably certain of effecting a cure. Those in charge of the campaign hope to make both the medical profession and the laity conscious of the value of the fluoroscope and the x-ray as standard aids in diagnostic practice. Because the transition from the early or "silent" stage of tuberculosis to the moderately advanced or far advanced stage of the disease is relatively swift, it is felt that one cannot depend on clinical signs and symptoms alone, but must call upon these two important adjuncts in diagnosis.

While the campaign is directed primarily to the general public, it is hoped that all physicians will realize anew their responsibilities in this fight against tuberculosis. Constant vigilance is necessary if we are to hold the ground we have gained, and make future progress into the enemy's territory. The following words of Sir William Osler should serve as a challenge to every practitioner in the state: "A last word on the subject of tuberculosis to the general practitioner: The leadership of the battle against this scourge is in your hands. Much has been done, much remains to do. By early diagnosis and prompt, systematic treatment of individual cases, by the prompt recognition of contact cases, by striving in every possible way to improve the social condition of the poor, by joining actively in the work of the local and national anti-tuberculosis societies you can help in the most important and the most hopeful campaign ever undertaken by the profession."

Outstanding Features of Postgraduate Education

Editor's Note: The wide-felt need and increased interest on the part of the medical profession in postgraduate education have led your editor to believe that a resumé of the various forms of this activity would be welcome and helpful to the members of this society. We are herewith presenting a discussion written by Daniel J. Glomset, M.D., on postgraduate instruction in general, followed by a paper on the interstate phase of the subject. Subsequent issues of the Journal will carry additional articles pertaining to other forms of postgraduate education.

The life long ambition of every worthwhile physician is to give his patients the very best care that medical science can offer. During the present century rapid scientific advances have been made on the entire medical front, and so easily diffusible has knowledge become in our day that even the most secluded practitioner of medicine is aware of the frequent new discoveries, and of the significant clinical advances which are taking place. Hence every doctor of medicine recognizes the incompleteness of his own knowledge, and his desire for more information burns incessantly within him. It was this hunger for more knowledge, and skill which made physicians centuries ago form themselves into societies where they could mutually benefit by each other's experience and wisdom. The benefit of medical societies is clearly shown by the fact that they have rapidly increased in number and membership until today their number is literally legion. They vary in kind from the humble study clubs, where a few doctors meet in each other's homes or offices to exchange ideas, to such dignified scientific bodies as the American Congress of Physicians and Surgeons; and from the smallest county medical society to the mammoth American Medical Association. The primary purpose of all such bodies is the dissemination and assimilation of new knowledge. The striking and indeed peculiar growth of societies which exist solely for postgraduate study is seen in the development and popularity of that creation in one man's brain which was formerly known as the Tri-State Medical Society, and is now known the world over as the International Postgraduate Assembly. Similarly the popularity of the Omaha Midwest Clinical Society, which will be discussed in this issue, shows conclusively the need for such postgraduate endeavors.

The next logical step, after this desire for such knowledge had become apparent, was the publishing of information brought out at the society meetings. This led to the development of the medical journals, and the rapid multiplication of medical publications during our day is eloquent and convincing evidence of the alertness of the physicians of today. The journals range from mimeographed hospital or clinic proceedings to highly technical publications of interest to only a narrow specialty; but the frequent appearance of new journals

shows that in spite of the large number and variety of medical publications the hunger for this type of postgraduate instruction has not yet been stilled.

The huge wave of new medical knowledge which has been sweeping in over us during the present century led to the lengthening of the undergraduate course in medicine, yet the graduates felt unequal to practice according to their ideals even after four years of study, and began taking an extra year or more as internes in order to be able to give their prospective patients the benefit of all the available information. The imperative needs for such an extra year for would-be practitioners soon led to the inclusion of an internship in the undergraduate course; but again this did not suffice to master all the new information being brought forth. Residence services were established, and fellowships were granted, such as those in The Mayo Clinic, not to accomplish the impossible mastery of the old and all the intruding new knowledge, but to master one particular phase of it. Thus out of sheer necessity specialties were born, and it became logical and proper for the specialists to be trained in our well equipped and staffed institutions of learning.

Despite our persistent vigorous efforts to keep and maintain an informed profession there has existed until recently a gap in our postgraduate instruction. That large and important group of doctors who practice medicine in the smaller cities and in the rural communities are so far removed from the stimulating influence of medical centers that new knowledge filters out to them altogether too slowly. For the vast majority of such practitioners going away for postgraduate instruction is a physical impossibility, and for most of the rest their discomfort over their own lack of knowledge and skill is not sufficiently strong to send them away from their competitors. Yet all of them desire the new knowledge, albeit some of them weakly. The extension division of the University of North Carolina was the first to take postgraduate instruction to the physician in 1916 in an attempt to close the gap in our now comprehensive system of keeping all types of clinicians abreast with the rapid advances that are being made. Since that time thirty-four states have endeavored to carry medical postgraduate education to the prac-

ting physicians. The methods employed vary a great deal but most states seem to conduct courses once a week over a period of weeks in selected centers within their states, and the courses are either in the form of lectures, clinics, or demonstrations, or combinations of all three methods. What appears to be the most ideal postgraduate system so far evolved is now operating in Michigan, and this plan will be described in full in some future issue of the JOURNAL.

Postgraduate courses in Iowa have been presented during the past eight years. They are conducted by the Iowa State Medical Society with the hearty cooperation of the State University of Iowa, College of Medicine, and the Iowa State Department of Health. The very fact that after eight years of existence, courses were conducted in ten different centers this spring is at least conclusive proof of the need for such postgraduate education. Much of our teaching has been done by the lecture method, although many clinics and demonstrations have also been held, and motion pictures have been employed to a certain extent. The Speakers Bureau Committee is fully aware that the lecture method is the poorest form of teaching, but it is teaching, and there seems to be no reason why, as this work continues, the more worthwhile pedagogic methods cannot be fully utilized. Definite benefits now discernible from the attempt of the Iowa State Medical Society to take postgraduate instruction to its members are five in number. First, the sick in the state receive better treatment. One can conservatively state that each member who attends one of these courses has something directly worthwhile to take back to his patients from each session, and that in the aggregate form means a vast amount of benefit for the sick in the state. Second, one cannot listen to a lecture of this nature without being stimulated to renewed effort at acquiring additional information and knowledge. The actual benefit derived from such stimulation cannot, of course, be measured. Third, these courses have in a striking way enhanced the feeling of friendly solidarity among the doctors of Iowa. Fourth, by using outstanding well informed physicians as teachers, the Iowa State Medical Society has given such individuals a very salutary boost upward toward ideal leadership in their localities and in medicine. Fifth, and perhaps as important as any by-product of these courses, is this; they have given the cloistered professor an opportunity to become acquainted with the general practitioner and his problems; in other words, "to see how the other half lives."

If in the future we can guide the progress of medical education through the harmonious workings of practicing physicians and university pro-

fessors, rather than allow it to travel along impractical lines, as has so often been the case with medical education in the past, these extension courses will be given credit for having maintained mutual respect and cooperation between the teacher and the practitioner, and that in itself will be no mean accomplishment.

Interstate Postgraduate Courses

J. D. McCarthy, M.D., Omaha

One of the ambitions of the medical profession over a period of many years has been the hope that some day ideal postgraduate study might be given and obtained. This idea undoubtedly prevailed in the minds of those pioneer physicians who years ago banded themselves together and created the first medical society. Their main purpose in such organization was to give opportunity for the exchange of personal experiences in caring for the sick and thereby gain, at least in the broader sense, a better understanding of their diagnostic and remedial problems.

Out of this has developed on the part of the physicians of today an attempt to provide through the many medical journals, the hospital staff meetings, the county, state and national medical meetings, the many specialty assemblies, the university postgraduate and extension courses, local and sectional assemblies, and certain hospital ward rounds, clinics and conferences, these same opportunities on a basis, of course, comparable to this particular age and the advances made down through the span of years. The object is the same, namely, opportunity to the physician to try and keep somewhere near nodding acquaintance with the rapidly paced progress being made.

Because of this pace and the rapid strides made, it seems to me high time that postgraduate training be fitted and harmonized to the representative physician of 1937 rather than continuing with "horse and buggy" methods still in vogue. I refer to the "horse and buggy days" with a sense of humble admiration and respect, rather than with rancor and impatience. I borrow only the rather expressive words. The groping for better things in postgraduate teaching has always been constructive and many types of endeavors have been necessary. As I see it, however, the pace of the type of postgraduate teaching lags far behind the needs of the physician of today.

For example, may I present for consideration the recent medical school graduate. We have in him, one not unlike the alumnus of 1905 except by training in line with the swift progress made during the past thirty years. He is a product of progress made. Preëducational requirements, the vastly improved medical school physical plant and curriculum, obligatory internship in many states,

and the research age in which we now live, helped to make of him a streamlined model, so to speak. Is it any wonder that these young men find it so difficult to accept general practice after having been steeped through environment and teaching in an atmosphere we have made them believe is the ultimate in the practice of medicine?

With this in mind let us attempt an inventory of values received from the present day attempt at furnishing postgraduate training. It must be understood that I am confining my discussion to the needs of the general practitioner, not to the specialist whose postgraduate training is another phase of the problem.

It has been said that the physician who neglects postgraduate teaching for a five year period, regardless of how hard he tries to catch up, finds himself handicapped with a lag hard to take up, and only through real perseverance does he accomplish the task. The physician ten years away from such contacts is almost hopelessly lost, and only the rare exception makes the comeback.

If this be true, and I believe it is, bearing in mind my remarks about our present day medical school graduate, does not so-called organized medicine owe all practitioners the 1937 opportunities for graduate study? Some may ask, would he take the opportunity if it were afforded? I am confident that he would, for we must not forget that while we have been graduating doctors, we have been training the layman. The majority of our patients expect us to make the effort to keep up, in part at least, with the advances made; another generation and this will be a demand. Indisposition, therefore, on the part of the physician to recognize such training as part of the practice of medicine, must inevitably fall by the wayside and thought of in terms of "survival of the fittest." When all is said and done, our success in overcoming the haunting state medicine trend, the isms and the schisms, will be measured by our attempt to improve our service to those we serve.

To date our endeavors to provide postgraduate teaching through our agencies now at hand have been stepping stones to something better, which is, as yet, not evident in this country. This quest has been carried on by all nations. Not long ago Great Britain made a real stride forward in trying to solve the problem of graduate training for the practitioner when she made available such opportunities through the British Postgraduate Medical School in London. I have been reliably informed that what was in this way started as an experiment has more than fulfilled the fondest hopes of those responsible for the undertaking.

In the United States our representative medical societies are all out of the same mould in planning

so-called postgraduate courses. My hobby interest in such societies has been sound scientific programs. In alluding to these programs I have studiously tried to avoid mentioning them as postgraduate courses in discourse and writing, and in its stead have referred to them as sessions, addresses, lectures or clinics. I am familiar with the planning of programs for the Nebraska State Medical Society and the Omaha Midwest Clinical Society, having had what might be termed an intimate active contact. As an example of societies and their altruistic efforts in providing so-called postgraduate courses, may I offer as Exhibit "A", the Omaha Midwest Clinical Society.

The Omaha Midwest Clinical Society October meeting attracts an attendance of approximately one thousand physicians during its five-day, four-evening program. The active membership is composed of one hundred and twenty-five Omaha physicians; all others registering for the sessions are designated as associate members. Only members are permitted on the local lecture program, and they must appear thereon at least once in three years. The greatest majority of the members are of the Nebraska and Creighton University Medical School faculties and should be the ideal type of essayists for this type of program because of their teaching experience. Each member is assigned to only one of the eleven sections—medicine, surgery, orthopedic surgery, pediatrics, obstetrics and gynecology, otorhinolaryngology, neurology, radiology, dermatology, urology and basic science. The preparing of a paper, movie or scientific exhibit is work of a constructive nature and stimulating to many to do more work of like character. This, therefore, must be of real benefit to our members.

Our guest speakers, usually numbering twelve, represent not only individual but sectional thought, inasmuch as they come from all sections of the United States. These gentlemen undoubtedly react in a way similar to the members. The associate members, a cross-section of the physicians of Iowa, Missouri, Kansas, Colorado, Wyoming, the Dakotas and Nebraska have on the whole expressed themselves as well pleased with the entire program. Opportunity is provided, for personal discussion between associate members and essayists on that particular topic holding mutual special interests. In other words, our meeting is more or less typical of the great number of similar meetings being held during the year throughout the country. I repeat, they fill a need and a great deal of good is accomplished for all concerned. In the final analysis, however, we have only had a stimulating "refresher course", not a postgraduate course.

All of us have had the opportunity of attending meetings such as are now in vogue, and at some time or other intensive postgraduate study at the bedside. I am confident that if you will compare the end result of the one with the other, you will find the actual benefits derived from the latter far outweigh those of the former. I believe the situation can be improved, and accordingly have a plan to offer. I can see where three or four contiguous states might be considered a postgraduate unit. The medical schools and university hospitals in these states, with their faculties, would make up this unit. Three or four postgraduate courses, two or three running concurrently, could be held each year, alternating between these teaching centers, with an interchange of at least some of the faculty members for such courses. This is offered merely as a skeletal outline of a plan, the details of which could only be worked out after careful consideration.

Such a plan would, I believe, afford a real postgraduate course for all concerned. It would provide the type of study needed by all of us at minimum time and cost, two items which cannot be overlooked by the majority. In other words, it would bring to the back yard of all physicians, at less cost and time, postgraduate study which they need and could afford to take. Such an undertaking would require underwriting, and an executive and administrative body. I know of none better qualified to deal with this question than the American Medical Association, the American College of Surgeons, the American College of Physicians, the various state medical societies, and other specialty groups and representatives of the universities, both from the standpoint of finance and intelligent management.

Interstate postgraduate courses are most necessary, and as conducted have to date filled a real need. I believe, however, that the time is ripe to interest ourselves in some plan which will in its entirety measure up to what we believe the ideal interstate postgraduate course should be.

SPEAKERS BUREAU RADIO SCHEDULE

WOI—Fridays at four p. m.

WSUI—Wednesdays at three-thirty p. m.

May 7 and 12—The Importance of Good Vision (Prize winning essay) Miss Genevieve Eckberg.

May 14 and 19—Safe Motherhood—Medical Society of the State of New York.

May 21 and 26—Blood Pressure—Edward W. Anderson, M.D.

May 28 and June 2—Eugenics and Its Relation to the Community—W. W. Bowen, M.D.

June 4 and 9—Shall We Take a Vacation?—Channing G. Smith, M. D.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS

Meeting of Board of Trustees, March 16, 1937 State Society Office

Roll Call: All members of the Board were present. Others in attendance were: Prince E. Sawyer, Sioux City, president; Lee F. Hill, Des Moines, editor; Harold J. McCoy, Des Moines, treasurer; Fred Moore, Des Moines, Chairman Committee on Public Policy and Legislation.

Transactions: 1. Approval of bills. 2. Approval of report of Board for the Handbook. 3. Report from President regarding annual meeting and expression of appreciation of cooperation of Board during past year. 4. Authorization of expenses for transportation and hotel for delegates to American Medical Association. 5. Authorization of expenses for transportation and hotel for Secretary in attending American Medical Association meeting. 6. Accepted bid of Freeman Construction Company, Des Moines, for constructing exhibit booths at annual meeting. 7. Authorized executive secretary to make written application for formal exemption from tax provisions of Social Security Act. 8. Report of Legislative Committee and discussion of legislative activities. 9. Approval of JOURNAL offering binding service to members of the Society; year's issues of Journals bound together for \$1.50, provided one hundred or more orders are received. 10. Approval of completing the dictaphone outfit for JOURNAL use. 11. Report of Treasurer regarding purchase of new bonds. Board authorized purchase of Treasury bonds, drawing two and one-half per cent interest, due in 1953. 12. Authorization of a conference luncheon for county society secretaries and past presidents of the State Society during the annual meeting.

AMENDMENT TO WORKMEN'S COMPENSATION ACT

The proposed amendment to the present Workmen's Compensation Act was fully reported upon in the March issue of the JOURNAL. Your Legislative Committee is pleased at this time to report the adoption of an amendment to that Act, which raises the liability of an employer for personal injuries to employees from \$300.00 to \$600.00. From the time of the original enactment of this statute in 1913, until 1929, the total maximum compensation for doctors, nurses and hospitals, was limited to \$100.00. In 1929 this limit was raised to \$300.00. Those in close touch with the Industrial Commission have estimated that by this new provision, 99.5 per cent of the cases will be covered. This bill was introduced by the Iowa Hospital Association, and became Senate File No. 24, and House File No. 117. Your Legislative committee cooperated closely with the Iowa Hospital Association in endeavoring to secure passage of these bills, and wishes to express its appreciation of efforts expended by various individual members of the Iowa State Medical Society.

SPEAKERS BUREAU ACTIVITIES

AN APPRECIATION

The Speakers Bureau would like to pause at the end of the first quarter of 1937 and present a brief resumé of the work which has been accomplished in the first four months of the year. In that time ten postgraduate courses have been presented; three series of twelve or more lectures have been presented to college students; one series of fourteen lectures has been given to the social service workers in Polk county; and many lay talks on cancer and venereal disease control, as well as other subjects, have been arranged.

This work has all been made possible by the fine cooperation of the physicians from all parts of Iowa, who have given generously of their time and energy in order to carry a message from the medical profession to those who have asked for it. There can be no doubt but that the many talks on cancer which have been given will be helpful in saving lives. Certainly the talks on venereal disease control have brought the problem more forcibly to the attention of the public, and have demonstrated the possibility of reducing these diseases to a minimum.

Possibly in no other phase of the work has the response been more enthusiastic than from the lectures given to college students. College audiences are critical, and it speaks well for the medical profession, as a whole and as individuals, that the students have found these talks very interesting and worthwhile.

The postgraduate courses have been very well attended, and the reports received from those attending them have been enthusiastic. Six of the courses were of the "refresher" type, dealing with obstetrics and pediatrics. The lectures were given by Iowa physicians, part of them from the staff of the College of Medicine at Iowa City, and the rest practicing physicians. These speakers spent much time and thought in preparing lectures which would be of the greatest value to the general practitioner, and provided abstracts of their lectures so that copies might be made for everyone attending the courses. In this way a permanent record of each lecture has been made available for the general practitioners and without a doubt these will be very helpful to them.

The Speakers Bureau asked for a report on each lecturer, and those which have been received offer overwhelming proof of the value of each man's efforts to help his fellow physicians. The committee is very grateful to these speakers, and wishes to take this opportunity to thank them publicly for their wonderful cooperation.

Final figures of attendance have not been received, but there were approximately forty physicians registered at Osceola, twenty-four at Centerville, sixty-five at Keokuk, forty-five at Panora, thirty at Denison, and fifty at Red Oak.

Courses in general therapeutics were held at four centers—Ames, Fort Dodge, Webster City, and Clinton. Approximate registration figures were as follows: Ames, between forty and fifty; Fort Dodge, about forty; Mason City, fifty-two; and Clinton, between forty and forty-five. The lecturers for the most part came from Illinois and Minnesota, and the medical profession in Iowa is very grateful to them for their kindness in helping with postgraduate education in Iowa.

As in all of the work, the Speakers Bureau is merely the co-ordinator of the activities. Other physicians perform the actual tasks, and to them must go the credit. The committee alone would be helpless to accomplish the good which has been done were it not for the generosity and fine spirit of those who have cooperated. The three hundred ninety-one men who have registered for these courses owe thanks to their fellow colleagues who have made them possible. Thanks are also due those men who have helped with the eleven county society programs, the twenty-three talks on cancer, the fourteen talks on venereal diseases, the thirty-seven talks to college students, and the forty-three other talks to various organizations, as well as those who have helped with the fourteen radio talks presented.

The work of the Speakers Bureau is going on. The committee feels that its existence is justified by the constant demand for help which has been met so well by the medical profession itself.

HEALTH ESSAY CONTEST

The Speakers Bureau has been very happy to cooperate with the Woman's Auxiliary to the Iowa State Medical Society in the fourth annual health essay contest which is open to all high school students in the state. The subject of the contest this year was "The Importance of Good Vision", selected because it was felt that by narrowing the field to be covered, the students would gain a thorough knowledge of one part of the body. This result seems to have been attained, as the quality of essays received this year was very high.

The winner of first place was Miss Genevieve Eckberg, sixteen years of age, a sophomore in the Dana High School. Miss Eckberg has proved her ability by winning several other essay contests in the past eighteen months, and if she continues as she has started, she may rank as one of Iowa's leading writers in the future.

The prize winning essay will be read by Miss Eckberg over Radio Station WOI Friday, May 7th. This privilege is always granted to the winner of the contest by the Speakers Bureau.

The winners of the other prizes will be found listed on the Woman's Auxiliary page in this JOURNAL.

WOMAN'S AUXILIARY NEWS

Edited by the Press and Publicity Committee

MRS. DEAN W. HARMAN, *Chairman*, Glenwood, Iowa

THE ESSAY CONTEST COMMITTEE REPORTS

The Essay Contest Committee of the Woman's Auxiliary to the Iowa State Medical Society, herewith publishes the names of the winners in the Fourth Annual Health Essay Contest, sponsored by the Woman's Auxiliary and the Speakers Bureau of the Iowa State Medical Society.

Winner of first prize and \$20.00

Miss Genevieve Eckberg, Dana

Winner of second prize and \$10.00

Miss Vera Soukup, Wilton Junction

Winner of third prize and \$5.00

Mr. Ralph Sayre, Jr., Menlo

Winner of honorable mention and \$1.00

Miss Lucille Gripp, Thayer

Miss Marian Walker, Sumner

Miss Rowene Cornick, Davenport

Miss Maree Artlip, Elliott

Mr. William d'Autremont, Riverside

Miss Marjorie England, Minburn

Miss Annabelle Smith, Oskaloosa

Mr. Roger Anderson, Arthur

Miss Joyce Fackler, Herndon

Mr. Robert Noble, Yarmouth

This year more than three hundred essays were submitted, representing approximately one hundred and fifty schools, on the chosen subject, "The Importance of Vision". While the number of essays presents no appreciable increase over those submitted last year, it was felt that on the whole these papers showed a more intelligent understanding of the subject than any heretofore received. The task of choosing the three best essays and the ten for honorable mention was difficult indeed. From a perusal of the papers it is strikingly evident that many of these young people have given considerable thought to this subject. They have delved into historical documents and scientific treatises, and emerged with a sane, wholesome, intelligent attitude toward medicine in general, and the part it plays in the preservation of mankind. The benefit of this type of education cannot be measured, it can only be estimated; but your committee is proud to have been of service to the medical profession in this manner. We feel that one of the most important contributions which we can make to the education of young people is the creation of a sympathetic and broad understanding of the aims and ideals of the medical profession.

The following essay, written by Miss Margaret Naughton, a senior in the Bagley High School, was not selected by the judges as a prize winner, since the article did not cover all the required points. Nevertheless, it is an excellent presentation of the subject, and we are happy to publish this essay, exactly as it was prepared by Miss Naughton.

THE IMPORTANCE OF VISION

Mankind holds its eminent position in the world because of vision—because of mental vision which is so largely dependent in physical vision.

Physical vision is made up of two elements—sight and light. In order to see clearly, easily, and accurately, we must have good sight, either through naturally good eyes or through eyes whose defects have been corrected by glasses; and we must have ample, properly directed light.

Sight and light are so much a part of our common, everyday lives that we take them for granted; yet how important they both are!

Sight is the most precious and useful of all our senses. Through our eyes, we see the distant stars, the bright skies, the radiant sunshine. Through our eyes, we know the features of loved ones—the shapes of familiar objects; we know the sheen of silk and gold and silver—the brightness of light and of objects that reflect it; we know the colors of the flowers—we know the flicker of an eyelash, the speeding train, the soaring bird—romping children, milling crowds, sails skimming the ocean. For vision shows us form, brightness, color, and motion.

Vision enables us to study, to play, and to work. It brings us eighty per cent of our knowledge. How great a portion of our joy and happiness it brings we can realize by imagining, a moment, how sad it would be to be deprived of sight. And vision is the very cornerstone both of human and of individual progress.

Safety, activity, and accomplishment go hand in hand with good sight. This is revealed all through nature. Oysters have no eyes. Of the millions of them that are hatched out each year, only a few live to grow up because the rest are gobbled up by their natural enemies. Having no eyes, oysters can only open their shells and their mouths and depend on the sea to wash their food to them. And what has an oyster to look forward to? At best, it can only find its way into an oyster stew.

Fish have eyes—not very good eyes, to our way of thinking, yet good enough so that they can swim around to find food and to get away from their enemies. But birds, with much sharper eyes, have much greater freedom, and greater security.

We want to know how to have clear, easy vision today; and how to preserve throughout life the only pair of eyes we'll ever have.

There are simple, definite ways whereby we can preserve, correct and improve our sight. Fundamentally, all these means go back to rest—to the relief of eye strain.

The first form of rest for the eyes is sleep, as for all other parts of the body; and ample sleep is both a protective and a corrective measure of vast importance. But there is another very simple way for resting the eyes during waking hours. To understand why this means is practical and helpful, stop a moment to consider what eye strain really is.

Eye strain is muscle strain. Tired eyes mean tired muscles. The muscles used for close seeing are the ones which tire.

To relax and rest the muscles of the eye, it is only necessary to raise them from close work and look at something in the distance. If only we would form the habit of looking away from our work for a few seconds at frequent intervals our eyes would be far more comfortable.

Gently closing the eyes is another way to rest them. You have no doubt noticed that when your eyes are tired, your eyelids wink more frequently. This is one of Nature's methods for resting the eyes. Under ordinary conditions, the eyelids wink three to six times a minute. The interval during which they cover the eyes is very short, nevertheless it is a "breathing spell" which not only relieves the retina but also relaxes the muscles.

Another of Nature's means for resting our eyes during our waking hours is through an arrangement whereby we are blind during the fraction of a second when we look from one object to another—even as the eye skips along a line of type. Each time the eye moves, the focusing muscles readjust and the eye focuses anew on the next point to be observed.

Looking at distant objects, closing the eyes, and Nature's natural rest period as the focus of the eye is changed all help to avoid excessive eye strain. But for the strenuous work to which modern eyes are put, this usually is not sufficient to prevent defective vision. Additional means for resting the eyes and relieving strain are required.

Statistics indicate that more than seventy people out of every hundred in the United States have defective vision. This is not surprising in view of the fact that man, today, uses his eyes so utterly contrary to Nature's plan of seeing. The surprising part is that any of us have escaped defective vision. But even though the situation can readily be understood, it is nevertheless alarmingly serious.

It's not as if eye defects merely dimmed the vision. They rob one of much of the joy of living. They frequently result in headaches, indigestion, and nervousness. They are a source of danger both to the owner and to those with whom he comes in contact. A person with defective vision is not so able to keep out of harm's way. Furthermore, if he operates machinery or drives an automobile, he may be a real menace to those around him.

Better vision means better life in many ways, especially in safety, efficiency, progress and health. We all realize how important it is to take care of the only pair of eyes we'll ever have. And remember, ninety-five out of every hundred who suffer from defective vision can have their eye faults corrected by the helping lenses of eyeglasses!

Keen eyes and keen minds go together. Keen eyes enable one to gather more information. In addition, they enable the individual to use his knowledge effectively because he is not dragged out and held down by the fatigue, nervousness, and physical ill caused by eye strain.

The direct relation between eyesight and progress is especially apparent in our schools. Eye defects among school children increase from grade to grade. One out of every five children in the "teen" age suffers from defective vision. More children with defective vision are classed as backward than children with good vision, either natural or corrected by glasses.

A survey of one group of school children showed that the alarming rate of one out of every three had defective vision, thirty-four per cent! Of those making normal progress and keeping up their classes, only fifteen per cent had eye difficulties. But those who were left behind in their studies, eighty-five per cent had defective eyesight. This and other studies prove that there is a definite relation between good vision and normal progress in school. Dull eyes make dull scholars.

Actual studies have proved that very often a child's progress in school can be improved just by correcting defects in vision by means of eyeglasses.

To greater safety, better work, and keener minds, better vision adds better health; and surely there is nothing more important on earth, for good health is the foundation of happiness.

Eyes that are constantly strained are themselves tired, smarting, aching, and uncomfortable. But we must all realize that these are only a few of the results of defective vision. And we must remember that many times when the eyes themselves do not feel particularly uncomfortable we are, nevertheless, suffering the results of defective vision. We have proof of this not only in the statements of noted authorities but also in the testimony of those who know from experience.

Headaches are reduced fifty per cent, on the average, when eye defects are corrected. Nervousness, tiredness, mental strain, indigestion, even backache often pass away like magic when—through the use of glasses—the body is relieved of its struggle to offset strain.

Modern eyeglasses protect and preserve Nature's greatest marvel—vision—and only the best is good enough for our priceless eyes.

Indeed, it is little enough tribute to pay to Nature's untold efforts that man should exert all his skill and ingenuity in preserving and extending the usefulness of the human eye. Good eyes should be given good care. Eyes that falter under the strain of modern living should be carefully watched—examined at regular intervals. When necessary, as with seven out of ten of us, their defects should be corrected by the use of the helping lenses of eyeglasses.

Remember, man is what he is today very largely because of the marvel of vision. Greater health, greater progress, greater success, greater happiness are in store for us if we'll just take the necessary steps so that we shall be able to see correctly.

OFFICIAL CALL



To the Officers and Delegates for the 1937 Meeting of the House of Delegates:

The first meeting of the House of Delegates at the 1937 session of the Iowa State Medical Society will be held promptly at 3:30 p. m. Wednesday, May 12, in the Main Auditorium of the Masonic Temple, in Sioux City.

The registration desk, located just outside the main auditorium, will be open at 8:00 a. m. on Wednesday. Registration is necessary for all officers and delegates and should be made prior to the opening of the meeting.

It is desired that the officers and delegates make a special effort to attend these meetings of the House as it is here that the future policies of the Society as a whole and the individual members as well are determined. Should any delegate be unable to come he should make it his responsibility to see that his alternate is notified and is in attendance in his place. Delegates and alternates may be elected at any meeting in advance of the annual session and their names must be certified to the Secretary of the State Society.

Any member of the Society is welcome to attend the meetings of the House of Delegates but only certified delegates and State Society officers have a voice in the proceedings.

A handwritten signature in dark ink, appearing to read "P. E. Sawyer", with a long, sweeping horizontal line extending to the right.

President.

SOCIETY PROCEEDINGS

Black Hawk County

Norman F. Miller, M.D., formerly of the State University of Iowa, College of Medicine, and now head of the gynecology department of the University of Michigan Medical School, Ann Arbor, was guest speaker for the Black Hawk County Medical Society at its regular monthly meeting held in Waterloo, Tuesday, April 27. Dr. Miller spoke on The Female Pelvis.

Floyd County

Tuesday, April 27, members of the Floyd County Medical Society met in regular session at the St. Charles Hotel in Charles City, and were addressed by Mark W. Dick, M.D., of the pediatric division of the State University of Iowa, College of Medicine, Iowa City, on Latest Developments of Serum Therapy and Prophylaxis of the Communicable Diseases.

Hardin County

The April meeting of the Hardin County Medical Society was held at Iowa Falls, Thursday, April 29. Ruben Nomland, M.D., of the department of dermatology of the State University of Iowa, College of Medicine, conducted a clinic in the Community Club Rooms at 4:30 P. M. Following a six-thirty dinner at the Stevens Hotel, Dr. Nomland addressed the society on Diagnosis and Treatment of Common Diseases of the Skin.

F. N. Cole, M.D., Program Chairman

Henry County

Members of the Henry County Medical Society met at the Harlan Hotel in Mt. Pleasant, Friday, April 16, for their regular dinner and meeting. J. W. Laird, M.D., of Mt. Pleasant, discussed Toxemia of Pregnancy.

Jasper County

The scientific program for the Jasper County Medical Society meeting held in Newton, Tuesday, April 6, was furnished by H. C. Willett, M.D., of Des Moines, who presented a paper on Functional Medicine in Dermatology.

Johnson County

The following papers were read before the Johnson County Medical Society when that organization met for its regular session Wednesday, April 7, at Youde's Inn in Iowa City: Methods of Determination of Blood Groups, Eloise M. Larson, M.D., of Iowa

City; and Serious Complications from Blood Transfusions, Elmer L. DeGowin, M.D., also of Iowa City

W. M. Fowler, M.D., Secretary

Linn County

On Thursday, May 20, the Linn County Medical Society will be entertained by members of the staff of the Independence State Hospital, at a six-thirty dinner and meeting. Robert A. Stewart, M.D., superintendent, will present Some Unusual Cases Admitted to the State Hospital, and he will be assisted by J. C. Barton, M.D., George Boody, M.D., A. L. Breen, M.D., and A. B. Steele, M.D., all of Independence. Discussion will be opened by Sidney D. Wilgus, M.D., of Rockford, Illinois; C. F. Obermann, M.D., of Clarinda; A. H. Woods, M.D., of Iowa City; and Frank Skinner, M.D., of Marion.

On Tuesday, June 29, the Society will have Harris Peyton Mosher, M.D., of the Harvard University Medical School, Boston, Massachusetts, as guest speaker. Dr. Mosher will speak on Modern Views of the Esophagus, and the discussion will be opened by D. M. Lierle, M.D., of Iowa City; W. J. Foster, M. D., of Cedar Rapids; and L. W. Dean, M.D., of the Washington University School of Medicine, St. Louis. Dr. Lierle will also present colored films on diseases of the larynx, and J. J. Potter, M.D., of Iowa City, will show stereopticon views of the ears. The ten minute paper will be read by J. Norman Bickert, M.D., of Cedar Rapids.

T. F. Hersch, M.D., Program Chairman

Marshall County

Frederick W. Mulsow, M.D., of Cedar Rapids, addressed members of the Marshall County Medical Society, and visiting physicians from surrounding counties, at a meeting held in Marshalltown, Tuesday, April 6, on the subject, Some Common Diseases of the Abdominal Cavity.

Polk County

The regular meeting of the Polk County Medical Society and Des Moines Academy of Medicine, was held at the Hotel Fort Des Moines, Tuesday, April 27, with the following Speakers: Elbow Fractures, Dwight C. Wirtz, M.D., and Behavior and Habit Problems in Childhood, Dennis H. Kelly, M.D.

A special scientific meeting was called for Tuesday, May 4, at which time a symposium on Primary Carcinoma of the Lungs was presented by James L. Dubrow, M.D., and W. R. Wynne, M.D., of the Veterans Administration Facilities.

The next meeting of the society will be held at the Fort Des Moines Hotel, Tuesday, May 25, at which

time Lester D. Powell, M.D., will present a Review of Regional Ileitis; and Harold C. Black, M.D., will give an address on The Problem of Arthritis.

Pottawattamie County

The Pottawattamie County Medical Society sponsored a public meeting and open forum discussion on the Control of Venereal Disease, which was held in Council Bluffs, Monday, April 12. The program was as follows: The Nature and Dangers of Syphilis, Ruben Nomland, M.D., professor of dermatology and syphilology, State University of Iowa, College of Medicine, Iowa City; The Present Status of Venereal Disease Control in Iowa, Marvin F. Haygood, M.D., deputy commissioner, State Department of Health, Des Moines; and A Proposed Program for Venereal Disease Control, William F. Snow, M.D., general director of the American Social Hygiene Association, New York. A moving picture on the subject, prepared by the American Social Hygiene Association, was also shown.

The next meeting will be held at the Mercy Hospital in Council Bluffs, Monday, May 24, and is to be a joint session with the Woodbury County Medical Society.

F. H. Beaumont, M.D., Secretary

Poweshiek County

Another public meeting for the purpose of discussing the new venereal disease program in Iowa, was that held by the Poweshiek County Medical Society in Grinnell, Tuesday, April 13. Marvin F. Haygood, M.D., deputy commissioner, State Department of Health, presided. At the business session of the society, Dr. E. J. Ringena of Brooklyn, was elected to represent the organization on the state society's fracture committee.

Clinton E. Harris, M.D., Secretary

Sac County

The Sac County Medical Society met at Sac City, Monday, April 19, and the following two scientific papers were presented: Scarlet Fever, Roland Stahr, M.D., of Fort Dodge; and The Immunization of Scarlet Fever, P. E. Lohr, M.D., of Churdan. The papers were well discussed and unusually enlightening and practical. The discussion at the business session centered around plans for a county hospital in Sac City. Dr. L. B. Amick of Sac City was elected to represent the county society on the state society fracture committee.

G. H. Bassett, M.D., Secretary

Scott County

Lindon Seed, M.D., associate professor of surgery, University of Illinois, College of Medicine, spoke before the regular meeting of the Scott County Medical Society, Tuesday, April 6, at the Hotel Blackhawk in Davenport. Dr. Seed's subject was Postoperative Abdominal Distention, Especially in Relation to the Use of Pitressin.

Washington County

Ruben Nomland, M.D., of Iowa City, furnished the scientific program for the Washington County Medical Society when that organization met in Washington, Tuesday, April 27. Dr. Nomland presented an illustrated lecture on Cancer of the Skin.

W. S. Kyle, M.D., Secretary

Woodbury County

The Woodbury County Medical Society was addressed by Carlo S. Scuderi, M.D., specialist in orthopedic surgery from the University of Illinois, College of Medicine, at a meeting held in Sioux City, Tuesday, April 27. Dr. Scuderi spoke on Injuries to the Cruciate Ligaments of the Knee Joint.

W. H. Gibbon, M.D., Secretary

Des Moines Valley Medical Society

The Sixty-fourth Annual Meeting of the Des Moines Valley Medical Society was held in Ottumwa, Thursday, April 29. The program was as follows: The Mutation Theory of the Origin of Cancer, Richard L. Sutton, Jr., M.D., of Kansas City; The Etiologic Diagnosis of Heart Disease, Evon Walker, M.D., of Ottumwa; Diabetes in Children, R. O. Hughes, M.D., of Ottumwa; Early Diagnosis of Acute Intestinal Obstruction, Glenn C. Blome, M.D., of Ottumwa; Toxemia of Pregnancy, H. W. Vinson, M.D., of Ottumwa; and Recent Advancements of Endocrine Therapy, Edward H. Hashinger, M.D., of Kansas City. The session closed with the showing of motion pictures by Dr. Sutton, entitled Snapshots from the Arctic.

Iowa and Illinois Central District Medical Association

The spring meeting of the Iowa and Illinois Central District Medical Association was held Friday, April 9, at the New Harper Hotel in Rock Island. Guest speaker for the occasion was William Weston, M.D., of Columbia, South Carolina, who delivered an address on Adulterated and Deficient Foods. Dr. Weston's paper was discussed by J. R. Vonachen, M.D., of Peoria, Illinois; T. Frank Hersch, M.D., of Cedar Rapids, Iowa; and J. P. Burgess, M.D., of Rock Island, Illinois. Another feature of the program was the presentation of a clinical case of a foreign body in the bladder by W. E. Allen, M.D., of Rock Island, Illinois.

The annual meeting of the organization will be held Thursday, May 27, at the Outing Club in Davenport. The session opens at three o'clock, and the following program will be presented: Allergy, French K. Hansel, M.D., assistant professor of clinical otolaryngology, Washington University School of Medicine, St. Louis; subject to be announced, W. C. Alvarez, M.D., of The Mayo Clinic, Rochester, Minnesota; Surgery of the Thyroid Gland, Arthur E. Hertzler, M.D., of Halstead, Kansas; and Popular Beliefs that are Not True, W. W. Bauer, M.D., director of Bureau of Public Health and Health Education, American Medical Association, Chicago. Election of officers will be held after the six-thirty dinner.

James Dunn, M.D., Secretary

PERSONAL MENTION

Dr. Ernest E. Shaw of Indianola, will sail May 22 for a three months' European trip, during which time he will represent the local Rotary Club as a delegate at the International Rotary Convention in Nice. Journeying from there to Vienna, Dr. Shaw will spend a month in medical postgraduate work.

Dr. Raleigh V. Butler, a recent graduate of the University of Minnesota Medical School, has arrived in Fremont, where he will take over the practice of Dr. C. D. N. Gilfillan, who moved to San Francisco, California, a short while ago.

Dr. Lester E. Larson of Decorah, gave an address on "Quacks and Quackery", to the Decorah Child Study Club, Monday, March 29.

Dr. Josef Wolf, formerly research assistant in the orthopedic department of the State University of Iowa, College of Medicine, with Dr. Arthur Steindler, has opened an office in Davenport, where he will enter the private practice of medicine, limiting himself to orthopedic surgery and fractures. Dr. Wolf attended universities of Heidelberg, Kiel and Munich in Germany.

Dr. A. C. Moerke of Burlington, was elected president of the Iowa Clinical Surgical Society at the annual meeting of that organization held in Iowa City, Saturday, April 17.

Dr. M. A. Kadel, formerly of Wellman, has left that locality to be associated with Dr. A. G. Felter in Van Meter.

Dr. R. M. Arey of Muscatine, spoke before the Y's Men's Club of that city, Tuesday, April 20, on the subject of "Syphilis".

Dr. James S. Glotfelty of Clarinda, has accepted a position in the veterans' hospital at St. Cloud, Minnesota. His practice will be taken over by Dr. Earl N. Bossingham, who comes to Clarinda from Fort Des Moines, where he has been associated with the army hospital for the past three years. He is a graduate of the University of Minnesota Medical School.

Dr. R. M. Sorensen, director of Health District No. 1 in Cherokee, was guest speaker for the American Legion meeting, held in Onawa, Wednesday, April 7. Dr. Sorensen spoke on "Applying Public Health Locally".

Dr. Cecil W. Seibert, for the past five years a member of the staff in the department of obstetrics and gynecology at the State University of Iowa, College

of Medicine, Iowa City, has located in Waterloo for the private practice of medicine. He will be associated with Dr. J. H. Butts.

Dr. H. A. Childs, who has practiced medicine in Creston for thirty-two years, is retiring from active practice, and has disposed of his equipment to his partner, Dr. Carl Sampson.

Dr. R. D. Cruikshank, after practicing for twenty-five years in Boone, has closed his office, and located in Goose Creek, Texas, where he will continue in active practice.

Dr. Clark N. Cooper of Waterloo, addressed the Waterloo Blue Triangle League, Thursday, April 15, on "Nervous Exhaustion".

Dr. E. O. Muhs, who has practiced for five years in Durant, is leaving that city to locate in Muscatine, where he will be associated with Dr. A. J. Oliver. Dr. Muhs' practice in Durant will be taken over by Dr. Paul B. Lonergan, who comes to Durant from Bloomfield, Nebraska, after several years of active practice.

Dr. Paul C. Richmond, after a year's association with Dr. F. W. Lee of Osage, has accepted an invitation to join the New Hampton Clinic in New Hampton. Dr. Richmond was graduated in 1935 from the State University of Iowa, College of Medicine, and completed his internship at the Methodist Hospital in St. Joseph, Missouri.

Dr. E. L. Walsh, formerly of Hawkeye, has been named to succeed Dr. R. M. Sorensen, as director of the Washington County Public Health Unit in Washington. Dr. Walsh, who is a graduate of the State University of Iowa, College of Medicine, completed his internship in Milwaukee hospitals, and has had special courses in public health work at the University of Minnesota.

The following addresses by Iowa physicians have been given recently to lay audiences throughout the state in connection with the nationwide campaign against cancer:

Dr. S. S. Westly of Manly, Tuesday, March 30, Northwood Farm Bureau.

Dr. M. C. Hennessy of Council Bluffs, Wednesday, April 7, Walnut High School assembly.

Dr. R. R. Jeffries of Waukon, Thursday, April 8, Waukon High School, public meeting.

Dr. E. M. Myers of Boone, Monday, April 12, Boone Women's Club.

Dr. F. P. McNamara of Dubuque, Wednesday, April 21, Bellevue Parent-Teacher Association.

Dr. H. L. Brereton of Emmetsburg, Saturday, April 24, Laurens Federated Women's Club.

MARRIAGES

Miss Helen Lucille Baker and Dr. John H. Matheson, both of Des Moines, will be married Friday, May 21, in the lounge of the University Church of Christ in Des Moines. Dr. Matheson was graduated from the State University of Iowa, College of Medicine in 1930, and has been practicing in Des Moines for the past three years.

The marriage of Mrs. Ann Jennings and Dr. Gordon N. Best, both of Council Bluffs, took place Friday, April 16, at the home of the bride's mother. Immediately after the ceremony, Dr. and Mrs. Best left by motor for a short trip through the eastern states. Dr. Best has been practicing in Council Bluffs for ten years.

DEATH NOTICES

Galvin, Joseph Emmit, of Fort Dodge, aged forty-six, died in Mercy Hospital, April 18, after three weeks' illness with a heart ailment. He was graduated in 1918 from the St. Louis University School of Medicine, and at the time of his death was a member of the Webster County Medical Society.

Hohenschuh, Frank Adam, of Clinton, aged sixty-two, died suddenly April 28, in Mercy Hospital, after apparently recovering from injuries received in a fall last February. He was graduated in 1900 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Clinton County Medical Society.

McAlvin, James Gregg, of Waterloo, aged sixty-seven, died April 14, in St. Francis Hospital from an arm infection complicated by diabetes. He was graduated in 1897 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Black Hawk County Medical Society.

McLaughlin, Alphonso James, of Sioux City, aged sixty, died April 18, as the result of a paralytic stroke suffered six weeks ago. He was graduated in 1898 from the Kentucky School of Medicine, Louisville, and at the time of his death was a member of the Woodbury County Medical Society.

Woodbury, Ernest Irving, of Burlington, aged sixty-six, died suddenly April 9, following a heart attack. He was graduated in 1894 from the Chicago Homeopathic Medical School, and at the time of his death was a life member of the Des Moines County and Iowa State Medical Societies.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. In most instances, more detailed information may be secured from the JOURNAL office.

Iowa State Medical Society—May 12, 13 and 14, Sioux City, Iowa.

St. Louis Clinics, Annual Postgraduate Course and Clinical Conference, May 24 to May 29, St. Louis, Missouri. Program given by members of the medical profession of St. Louis, with Medical Officers of the Army and Navy participating.

United States Chapter of the International College of Surgeons—June 1 and 2, New York City.

American Academy of Pediatrics—June 3, 4 and 5, Waldorf-Astoria Hotel, New York City.

Third Annual Meeting of the American Neisserian Medical Society—June 8, Atlantic City, New Jersey.

American Medical Association—June 7 to 11, Atlantic City, New Jersey.

American Association for the Study of Goiter—June 14, 15 and 16, Detroit, Michigan.

Fifth International Congress of Hospitals—July 6 to 11, Paris, France.

Fifth International Congress of Radiology—September 13 to 17, Chicago.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

American Board of Ophthalmology will conduct examination in Chicago, October 9. All applications and case reports, in duplicate, must be filed at least sixty days before the date of examination.

Military Surgeons Convention—October 14 to 16, Los Angeles, California.

New York Academy of Medicine, 1937, Annual Graduate Fortnight—November 1 to 12, New York.

American Association of Orthopedic Surgeons, Annual Meeting—January 15 to 19, 1938, Los Angeles, California.

Plan to Attend
The Annual Session
Sioux City
May 12, 13, 14, 1937

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. McCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

An Interesting Diary of a Pioneer Doctor

The Keokuk Public Library has arranged to have a pencil copy made of Dr. John A. Shaffer's diary covering the period from 1850 to 1912. Later it is expected to have typewritten copies made for further distribution. This is in response to many requests for reference to Dr. Shaffer's diary received by the Keokuk Public Library, who keeps the original under lock and key. It is estimated that the eight books comprising Dr. Shaffer's diary will run in the neighborhood of 500,000 words. A further description of these diaries and a brief life history of Dr. Shaffer are presented in the following two transcripts.

Diaries of Dr. Shaffer, Kept for Sixty-two Years, Now in Library

"Diaries kept for sixty-two and a half years by a prominent physician of Keokuk, Dr. J. M. Shaffer, have been purchased for the Keokuk Public Library by the board of trustees and yesterday were installed in the library. There are eight volumes of these documents which commence in May of 1850 and continue through January of 1913. They chronicle the history of the day in Keokuk, reveal intimate stories about Keokuk's public men and women; tell what kind of a day it has been through the six decades they interpret, note the social intercourse of the day, and in general prove a most valuable addition to Iowa literature and history.

"The six books had been in the possession of James B. Diver since the death of the well known doctor in 1913, and Mrs. Susie Hillis, owner of them, gave Mr. Diver permission to dispose of them as he saw fit. The books were purchased from Mr. Diver for the sum of \$300.00.

"Mr. Diver was an intimate friend of Dr. Shaffer's and he has kept the books intact since they came into his possession at the death of the doctor who was an authority on subjects of natural history; a delightful chronicler of the doings of himself and his neighbors.

"The Dr. Shaffer diaries comprise six books 10½ by 9 by 3 inches, and two volumes, 8 by 5

by 1¼ inches. They cover 4,458 pages and there are 22,813 daily observations on these pages. The written lines are estimated between 180,000 and 200,000 lines, closer to the latter figure in the opinion of Mr. Diver who made the analysis of the books. The number of words in them is estimated at 2,500,000 and the cost to copy would have been in the neighborhood of \$2,000.

Books in Fine Condition

"The diaries are written on exceptionally good paper, every line in the handwriting of Dr. Shaffer, neat and precise. They are well bound and are excellently preserved. One feature alone, the weather observations, would be worth a great deal. The doctor maintained a barometer and thermometer at his house on Third and Fulton streets in this city, and every day he took readings of both instruments, at precisely the same hour week in and week out. He has recorded many other happenings just as faithfully.

"The Iowa State Historical society was interested in the books at one time, but Mr. Diver felt they should be preserved here, made a special offer to the library board, and it was accepted."—From the *Daily Gate City and Constitution-Democrat*, February 17, 1926.

Brief Life Story of Dr. Shaffer

"Joshua Monroe Shaffer, M.D., was born in Washington county, Pennsylvania, September 13, 1830, and was the youngest of ten children. At the age of thirteen years, in 1843, he entered Washington College and was graduated in 1848. In 1849 he began the study of medicine at Elizabeth under the tuition of his brother John E. Shaffer, M.D., and attended lectures at the University of Pennsylvania. In 1852 he came to Iowa and located at Fairfield and entered upon the practice of his profession. In 1862 the honorary degree of medicine was conferred upon him by the medical department of the Iowa State University.

"From 1862 to 1874 he was secretary of the Iowa State Agricultural Society, an institution

born in his office in Fairfield in 1853, and of which he was secretary in 1854-55. In 1863 during the Civil War he was appointed surgeon of the board of enrollment for the first congressional district of Iowa, and during the following two years examined over five thousand men in preparation to their admission to the army.

"In 1867 he was commissioned by the governor to represent Iowa at the Paris Exposition, but the state failing to provide for expenses he was forced to resign. While a resident of Fairfield he represented his county in the state senate in the session of 1861-1862.

"Upon the organization of the Iowa Life Insurance Company in 1874 he was elected its secretary and removed his residence to Keokuk. He held that position during the life of the company.

"During his residence in Iowa Dr. Shaffer has always been a careful student in natural history, and made large collections in its different branches. His several thousand specimens of stuffed birds, etc., all his own work, gave him an extensive reputation as a taxidermist. So eminent was he in his study of natural history that he was considered high authority among the most eminent professors of that branch of knowledge and by the government officials at Washington, D. C.

"Dr. Shaffer's contributions to history were many and valuable. A pioneer resident of south-eastern Iowa, he took an active and important part in the development of the state and was a potent factor in shaping its destiny. From time to time in his later years he committed his recollections to paper and preserved them in print. His literary style was lucid and free from all redundancy. What he had to say he said in the fewest, simplest and most direct words. His language, like his thought, was clear and forceful. For half a century he had quasi connection with the Gate City as a scientific editor. He was an acknowledged authority on botany and entomology, and was closely connected with the Smithsonian Institute in Washington in the latter capacity. He was a frequent contributor to the scientific publications of the federal government and did much to promote general interest in nature study, of which he himself was exceedingly fond. He had probably the largest collection of bugs and insects in the country outside the government museum at the national capital. When consulted as to the identity, habitat or life history of any entomological specimen it was his custom to make public his reply in the Gate City that all might be informed on the subject. His investigations regarding the different kinds of moths were especially important and valuable.

"On March 18, 1856, he was married to Miss

Mel Jane Curry of Elizabeth, Pennsylvania, and to this union three children were born, Susan F. Shaffer, who is now Mrs. Oscar Hillis of Omaha, and William Monroe Shaffer of Galesburg, Illinois, both of whom are now in the city and Llewellen James Shaffer, the second son who died in 1861.

"Besides the son and daughter mentioned, he is survived by the following grandchildren: Curry Shaffer, Gallen Shaffer and Mrs. Richard Kent, and Warren S. Hillis of Chicago and Misses Madeline and Eloise Hillis of Omaha.

"He was a man among men and the entire city mourns the loss of this excellent and loved citizen and eminent man."

—From the *Daily Gate City*, March 26, 1913.

NEW JOURNALS AVAILABLE AT STATE MEDICAL LIBRARY

The following four new publications have recently appeared in medical literature, and may be obtained from the Iowa State Medical Library, Historical Building, Des Moines, Iowa.

Journal of Speech Disorders. This is the official organ of the American Speech Correction Association. The object of this new journal is not a consideration of stuttering alone, but also other allied phases, such as foreign accent and cleft palate.

Surgery. This publication deals with clinical surgery of the Middle West, yet it is not intended to be local in any respect. Its two editors, Dr. Alton Ochsner of Tulane University, and Dr. Owen H. Wangenstein of the University of Minnesota, represent the southern and northern extremes of the Mississippi Valley. The object of the journal is to stimulate the younger men to write, and to disseminate scientific surgical knowledge.

Review of Tumor Therapy. Volume I will appear about June. Research and experimental work will not be stressed, since these phases are adequately covered in other journals. This publication will concentrate on treatment as given in fifteen or more of the largest tumor treatment centers of the country.

Medical Classics. This journal takes up the historical side of medicine, with special reference to doctors who have had diseases named for them, viz., Paget's disease, Bell's palsy, and Pott's fracture. Papers of outstanding progress in medicine will be reprinted at frequent intervals. A recent issue was devoted to the paper on "The Contagiousness of Puerperal Fever", written by Dr. Oliver Wendell Holmes in 1843.

These journals are part of the 197 periodicals available at the Iowa State Medical Library. A complete list of these will be sent free on request, so that doctors may select those they would like sent to them regularly. The only expense is the postage. It will be a pleasure to be of service to you.

Jeannette Dean-Throckmorton, M.D.,
State Medical Librarian

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE CLINICAL USE OF DIGITALIS**—By Drew Luten, M.D., associate professor of clinical medicine, Washington University School of Medicine. Charles C. Thomas, Publisher, Springfield, Illinois, 1936. Price, \$3.50.
- THE DISEASES OF INFANTS AND CHILDREN**—By J. P. Crozer Griffith, M. D., emeritus professor of pediatrics, University of Pennsylvania; and A. Graeme Mitchell, M.D., professor of pediatrics, College of Medicine, University of Cincinnati. Second edition, revised and reset; 1153 pages with 293 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$10.00.
- DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN**—Edited by Robert L. Levy, M.D., professor of clinical medicine, College of Physicians and Surgeons, Columbia University. The Macmillan Company, New York, 1936. Price, \$6.00.
- ENDOCRINOLOGY: CLINICAL APPLICATION AND TREATMENT**—By August A. Werner, M.D., assistant professor of internal medicine, St. Louis University School of Medicine. Octavo of 672 pages, illustrated with 265 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.
- A HANDBOOK OF AMBULANT PROCTOLOGY**—By Charles Elton Blanchard, M.D., The Poland Study, Youngstown, Ohio. Medical Success Press, Youngstown, Ohio, 1937. Price, \$5.00.
- INTERNATIONAL CLINICS, Volume I, Forty-seventh Series**—Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia, 1937.
- THE 1936 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY**—Edited by Joseph B. DeLee, M.D., and J. P. Greenhill, M.D. The Year Book Publishers, Chicago, 1937. Price, \$2.50.
- AN INTRODUCTION TO MEDICAL SCIENCE**—By William Boyd, M.D., professor of pathology in the University of Manitoba. Octavo of 307 pages, illustrated with 108 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$3.50.
- LIGHT THERAPY**—By Frank Hammond Krusen, M.D., associate professor of physical medicine, The Mayo Foundation, University of Minnesota. Second edition, revised and enlarged. Paul B. Hoeber, New York, 1937. Price, \$3.50.
- MATERIA MEDICA, TOXICOLOGY AND PHARMACOGNOSY**—By William Mansfield, A.M., Phar.D., dean and professor of materia medica and toxicology, Union University, Albany College of Pharmacy, Albany, New York. The C. V. Mosby Company, St. Louis, 1937. Price, \$6.75.
- OPERATIVE SURGERY**—By J. Shelton Horsley, M.D., attending surgeon, St. Elizabeth's Hospital, Richmond, Virginia; and Isaac A. Bigger, M.D., professor of surgery, Medical College of Virginia. In two volumes. C. V. Mosby Company, St. Louis, 1937. Price, \$15.00 per set.
- THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE**—By Charles H. Best, M.D., and Norman B. Taylor. William Wood & Company, Baltimore, 1937. Price, \$10.00.
- THE SOCIAL COMPONENT IN MEDICAL CARE**—A Study of one hundred cases from the Presbyterian Hospital in the city of New York. By Janet Thornton, director, Social Service Department. Columbia University Press, New York, 1937. Price, \$3.00.
- THE 1936 YEAR BOOK OF GENERAL THERAPEUTICS**—Edited by Bernard Fantus, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois College of Medicine. The Year Book Publishers, Chicago, 1937. Price, \$2.50.

BOOK REVIEWS

THE 1936 YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY

Edited by Fred Wise, M.D., and Marion Sulzberger, M. D. The Year Book Publishers, Chicago, 1937.

This review of dermatologic articles published during 1936 and selected by the authors as outstanding contributions is prefaced by an excellent resumé on the treatment of urticaria. The etiologic approach in the management of urticaria is stressed with full particulars regarding the various methods to be employed by the physician. Foods were found to be the most frequent cause of acute urticaria, while drugs and various inhalants such as feathers, orris root, animal danders, pollen, dust and nasal sprays were frequently responsible. It was also pointed out that some cases of urticaria arise as a result of contact with various substances, such as occurs in bakers and millers in whom contact of flour with the skin produces urticarial lesions, and in furriers or dyers who are sensitive to various furs or dyes. The authors are of the opinion that careful investigation should be made to rule out foci of infection, drugs, inhalants, faulty metabolism and the psychic and emotional disturbances, as well as foods, when seeking causative factors in patients with chronic urticaria.

The remainder of the book consists of abstracts of original articles selected by the authors with their comments, together with selected photographic re-

productions from the original papers. There are both author and subject indices.

The quality of the paper and printing is excellent and the proof-reading was carefully carried out.

M.H.N.

UROLOGICAL ROENTGENOLOGY

By Miley B. Wesson, M.D., and Howard E. Ruggles, M.D., roentgenologists to the University of California Hospital. Illustrated with 227 engravings. Lea & Febiger, Philadelphia. Price, \$5.00.

This monograph of 262 pages contains a most excellent collection of urologic roentgenograms selected by the authors not only from their own cases, but also from those of numerous other members of the American Urological Association. Case histories together with a pertinent text makes this volume of great value to the physician interested in urologic roentgenology. The authors devote a chapter to the technic of urography, discussing the preparation of the instruments, intravenous urography and other methods employed during routine urologic studies. In the succeeding chapters we find a very complete treatise of the common as well as the unusual diseases, presented with roentgenologic data. The text contains many fundamental principles of interpretation well illustrated by numerous plates. D.H.K.

SURGICAL CLINICS OF NORTH AMERICA

Volume xvi, No. 1. Chicago Number. W. B. Saunders Company, Philadelphia and London, 1936. Price, paper, \$12.00; cloth, \$16.00.

The Chicago number contains a large number of excellent articles on a variety of subjects of interest and of real value to the general practitioner as well as to the surgeon. After a study of these volumes one cannot fail to be impressed by their merit and by their practical value.

A large part of the volume is devoted to a symposium on cancer of the cervix by men well qualified to speak with authority. Emphasis is placed upon the methods of early diagnosis of carcinoma of the cervix and the importance of thorough examination. The classification of the various types is presented and the treatment of the different classes is indicated. An excellent discussion of x-ray and radium treatment is given. The treatment of advanced carcinoma and its complications receives proper consideration of the discussion. It will be unfortunate if this symposium is studied only by the surgeon, for it should be in the hands of every practitioner.

Dr. Arthur Dean Bevan is the author of a splendid paper on the present status of the problem of appendicitis. In an exceedingly interesting manner the history of the disease, the diagnosis, and the indications for treatment are discussed.

Numerous other valuable contributions to the field of general surgery, orthopedic and neurologic surgery, make this an interesting volume. D.H.K.

INTERNATIONAL CLINICS

Volume IV, Forty-sixth Series. Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia and London, 1936.

This number of the International Clinics is not only pleasant and interesting reading but stimulating to the reader. An extremely wide variety of medical conditions is presented in an excellent manner.

The diagnosis and the treatment of acute and chronic essential thrombocytopenic purpura as presented by Giffin deserves especial attention. Coburn correlates the sedimentation rate and the antistreptolysin titer in active rheumatic disease. Samuel A. Levine presents a very practical paper on the bedside recognition and treatment of cardiac irregularities. The treatment of lung abscess and the collapse therapy in pulmonary tuberculosis are carefully presented. Excellent reviews on the subjects of acne and scabies by Isaac R. Pels are of unusual merit and should prove of interest and value to the general practitioner as well as the dermatologist.

It is a pleasure to review such a book and to rec-

ommend it to any physician interested in reliable medical information. D.H.K.

THE 1936 YEAR BOOK OF GENERAL SURGERY

Edited by Evarts A. Graham, M.D., professor of surgery, Washington University School of Medicine. The Year Book Publishers, Chicago, 1936. Price, \$3.00.

The volume contains intelligent reviews of current articles concerning practically all phases of general surgery. In the main the papers condensed in this book come from authoritative authors.

Many articles are of considerable importance and might well receive mention in this review. Surgical discussions of the stomach and duodenum receive excellent consideration. The injection treatment of hernia is effectively discussed with the technic given in full. Recent work on the gallbladder and biliary passages including cholangiography and cholecystography is of special interest. The text contains resumés of numerous unusual case reports as well as articles based on large collected series.

Here we find a condensation of the best general surgical literature for 1936 containing many papers found in the foreign literature. An excellent index makes any material immediately available. D.H.K.

SURGICAL CLINICS OF NORTH AMERICA

Volume xvi, Number 3. W. B. Saunders Company, Philadelphia and London, 1936. Price, paper, \$12.00; cloth, \$16.00.

This volume contains a wide variety of papers on diverse surgical subjects. A symposium on surgery for pain includes the technic of alcohol injection and the section of afferent nerves as well as section of the lateral spinothalamic tract. An interesting presentation of the surgical procedures that may be employed for the relief of the pain in angina pectoris includes an analysis of total thyroidectomy performed for this condition in the clinic at Bellevue Hospital. The treatment of painful, indolent infections by anaerobic organisms with a suspension of zinc peroxide is demonstrated by numerous clinical cases.

Among other interesting papers is that by Garlock on parathyroidectomy for Raynaud's disease and scleroderma, and hyperparathyroidism by Parsons. Numerous contributions to orthopedic surgery include the surgical treatment of sciatica, intracapsular fracture of the hip and slipping of the upper femoral epiphysis. Excellent papers on general surgery include common infections of the hand, the complications of gastro-enterostomy, living fascial sutures in abdominal hernias, and diseases of the thyroid gland. The surgical treatment of urinary infections in infants and children is ably presented by Dr. Meredith F. Campbell. D.H.K.

CHEMICAL PROCEDURES FOR CLINICAL LABORATORIES

By Marjorie R. Mattice, A.B., Sc.M., assistant professor of clinical pathology, New York Postgraduate Medical School of Columbia University, New York. Lea and Febiger, Philadelphia, 1936. Price, \$6.50.

This treatise is an entirely new work and comes as a reflection of a long experience in the teaching of biochemical procedures with medical students. The author has embodied in the book those tests of proved merit commonly employed in the diagnostic laboratory, stating clearly the requirements for the test, the procedure giving the best results, and of particular importance to the clinician, the interpretation of the findings of the laboratory in relation to the clinical picture. While the text should not be considered as highly technical, it is more than the usual text of laboratory procedures, since a brief but clear discussion of the chemistry, the physics, or the physiology, is stated with sufficient stress upon the biochemical procedure involved to give the student full appreciation of the more technical aspect of the problem. In the four parts of the text the author discusses the blood, the urine, gastro-intestinal secretions and miscellaneous biologic fluids, respectively. While written primarily as a text for biochemical instruction, the volume will be found useful to the clinician who operates a laboratory in connection with his practice, or to those who must interpret the results obtained by the laboratory examinations of patients in their charge.

R.R.S.

DISEASES OF THE RESPIRATORY TRACT

Clinical lectures of the Eighth Graduate fortnight of the New York Academy of Medicine, by 21 contributors. 418 pages with 56 illustrations. W. B. Saunders Company, Philadelphia and London, 1936. Price, \$5.50.

This text, which includes last minute and up-to-date information on diseases of the respiratory tract, should prove a very valuable addition to the library of either specialist or general practitioner. The chapters are written by well recognized authorities in their particular fields, are concise, and leave the reader a store of practical information which will help him to arrive at a correct diagnosis.

Much is also said in these chapters about the newer treatment of respiratory diseases. One chapter in particular, the one on pulmonary thrombosis and embolism, stresses the fact that these pathologic conditions usually are not sufficiently well recognized. If one will read this chapter, the subject will be well clarified and a differential diagnosis between coronary heart disease and pulmonary thrombosis will be better understood.

There are also excellent chapters on bronchiectasis, the evolution of pulmonary tuberculosis, atelectasis, massive collapse and related postoperative conditions, carcinoma of the lung, and several others of considerable importance.

H.A.C.

A TEXTBOOK OF MEDICINE

By Charles Phillips Emerson, M.D., professor of medicine, Indiana University. J. B. Lippincott Company, Philadelphia and London, 1936. Price, \$8.00.

To prepare a text in medicine which will possess sufficient merit successfully to compete with those already in general use requires not only an exceptional experience in the subject discussed, but also insight into the newer practices of the subject which have heretofore escaped attention. In presenting this new text we feel that Dr. Emerson eminently qualifies for this writing, and that this textbook will be accorded a very hearty acceptance by the medical profession.

The author entertains four concepts which in their embodiment in the text most effectively render clarity to the description of the disease processes by inviting an orderly and logical analysis of the physiologic and biochemical processes involved. First, the author believes that each disease entity should be presented as a definite clinical picture, rather than a composite of subjective and objective symptoms; second, that the student should approach an understanding of medicine from an historical background; third, that the disease processes can best be understood as a defense mechanism of the body against an unusual and injurious environment. Finally, he stresses the importance of studying the emotional reactions produced by the disease processes, since the well-being of the patient can only be reestablished when this emotional upset is corrected. The scope of the text is that usually covered in a work of this type.

R.R.S.

THEORY AND PRACTICE OF PSYCHIATRY

By William S. Sadler, M.D., Director of the Chicago Institute of Research and Diagnosis. The C. V. Mosby Company, St. Louis, 1936. Price, \$10.00.

Within the past few years physicians have realized that one important reason for the activity of various healing cults has been the negligence on the part of the profession in treating the psychic aspect of disease. With this realization has developed a need for a greater insight into the emotional reactions motivating or resulting from structural body changes. In this book Dr. William Sadler approaches the field of psychiatry from the standpoint of the general practitioner, and develops the subject upon the more recent lines of genetic-dynamic concepts of psychiatry, stressing the reactions induced by or resulting from these impaired emotional states on the entire human mechanism. Treatment is stressed from the non-institutional aspect and the therapeutic procedures advised are largely those which can be readily obtained without institution care. The book constitutes a complete text and reference work in this broad field of psychiatry and should prove entirely useful to the general practitioner, the specialist, the sociologist, the psychiatrist and other interested professional groups.

R.R.S.

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PRESIDENT'S ADDRESS*

PRINCE E. SAWYER, M.D., Sioux City

It would be an act of the most transparent affectation were I to pass this occasion by without expressing my profound appreciation of the honor conferred upon me when I was called to the presidency of this association. I desire sincerely to acknowledge the kindly feeling so expressed, and to thank you, one and all, for the consideration. The position has brought me in close touch with many of our members all over the state and the closer our acquaintance has become, the higher has been my esteem for all.

The work of the medical profession constantly tends to broaden the minds of all who are endowed with a proper sense of the lofty character of their calling, and in all walks of life no better or higher minded class of men can anywhere be found. It is true, we seldom witness the calling of physicians to public positions where the glamour of political notoriety attracts the public gaze; but the loyal devotee of the profession enjoys in a more pronounced degree the appreciation of those who esteem true merit, and the satisfaction of mind which comes to those who faithfully and conscientiously render to humanity the best service of which they are capable. Realizing this fact, the thought that should be uppermost in the mind of the worthy physician is not how he may win the applause of the indiscriminating public, but, how shall he be able to render the best service to mankind, and in some measure add to the realm of professional and scientific knowledge.

Organized medicine has advanced materially in Iowa during the past year. The members of the different county societies are active and doing good work along the lines of curative and preventive medicine. In a state as large as this there are bound to be, at times, little misunderstandings, but these should never be serious and I feel the few that have annoyed the peace and good-will of the Society as a whole for a short time in the

past, will be wiped out in the near future. Possibly at this meeting, the Eighty-sixth Annual Session of the Iowa State Medical Society, every cloud in the medical skies will disappear and once more we will have every county society ready and willing to fight for the betterment of organized medicine in the state and in the nation. We need a united society, we need every county society 100 per cent in membership and active, pushing ahead for the success of the State Society. These are troublesome times, and the medical man or woman must not be lulled to sleep with the idea that nothing detrimental to his interest can happen to the medical profession in this country. It has happened other places and it might happen here.

Right here I want to digress and talk to you for a few moments of the committees which were appointed by myself and sanctioned by the House of Delegates, and also the committees appointed by the House of Delegates and by the Council. I do not believe you appreciate the amount of work that these men put in for your benefit and for the benefit of the Society. Some committees have more work to do than others, but every committee as far as I know, has functioned practically 100 per cent during the past year, and the amount of time they have had to devote to the affairs of this Society has been unusually large. Not one of them, to my knowledge, has ever shirked his duty but whenever he was called for a committee meeting, a council meeting or a meeting of the Board of Trustees, unless something unforeseen turned up to prevent, he was always present, advancing his ideas for the good of the Society, and ever willing to do everything he could for the advancement of organized medicine in the state. These are the men who are in the front line trenches, fighting, as it were, for the preservation of our method of practicing our profession; and these are the men who, if organized medicine survives, will be responsible in a large measure for its preservation. I do not know how we can express our appreciation for what they have done but I want to take this opportunity, on the part of the So-

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

ciety, to extend to each and everyone of them, my sincere thanks for their devotion to duty and for the work which they have done for the preservation and advancement of organized medicine, not only in this state but in the nation.

For the past four years, the organization of an interprofessional group composed of physicians, dentists, veterinarians, pharmacists, and nurses, has been in the making. It has been a long tedious job. An organization of this nature has been operating successfully in Oregon, and is in the process of formation in Wisconsin and Minnesota. Your committee on interprofessional relations reported to me that this organization has been completed during the past year. Of course there are many details to attend to before it is functioning perfectly, but to my mind this organization when it becomes well established in the state, will be an important safeguard for every group associated with it. It is not a political organization, but if any one of the five groups should face a bad situation, the problem could be taken to the Council of the five groups; if the Council decided that the cause was a just one, this organization could then exert a powerful influence in any election in which it was interested. However, once more I want to caution that it is not an organization for this purpose and I hope that none of the groups will have to enter the political arena, because the care of the sick and the preservation of the health and well being of the people is the great aim and ambition of every group in this organization, and every member of the group sincerely hopes that neither the county, state or nation will force us out of our beaten path of service to the sick and the preservation of the health of the community in which we live.

Medical education is divided into two very distinct periods. The first is the period when the young man or woman is getting his or her medical education in the school and in the hospital. This is the most important period for that individual. He or she must be started on the right lines, instructed by men who know what educational food these young people need and how much they can absorb daily. One would hardly expect to find here in Iowa, a great prairie state of the middle west with no large cities, a medical institution which ranks among the best, taking everything into consideration, in this country. That is the case, however, and we are proud of our university at Iowa City and of the men and women connected with that institution, who are guiding and building the young minds for great things in the future. This school is our school and it is our duty to make it one of the best for the young people of the state of Iowa to attend. I mean by that statement that

it is our duty to furnish the proper material for teaching purposes at that school. Each county, as you know, is allowed to send a certain number of indigent patients to the University Hospital for treatment. I imagine many of these patients should be kept at home. They could be cared for more economically at home than in Iowa City, and they are not valuable for teaching purposes. For the good of the school and for the good of the boys and girls who are attending that school I would plead with you to be very careful, and when you are sending patients to the University Hospital, have in mind what these boys and girls who are going to that school need to help round them out into good doctors, well grounded in all the fundamentals of the practice of medicine and surgery; and as closely as possible follow the rule of sending only patients who will make the proper material for teaching purposes.

One more word in regard to medical education in this state. After a certain number of years of practice, the physician feels the need of attending or doing some postgraduate work so as to make a better doctor, a more up to date doctor, of himself. It is said that at the end of five years, some form of postgraduate work is needed by every physician. At the end of ten years, a thorough course at some postgraduate institution, with a certain amount of hospital work, is needed to put the doctor in a position where he can compete successfully with those who have recently been graduated or with those who have kept themselves up to the minute in scientific medicine by frequent postgraduate work. At the end of fifteen years, the doctor needs such a thorough overhauling that in some cases it seems almost hopeless again to make of him a really scientific, up to date medical practitioner. Our Speakers Bureau Committee is taking care of this situation in the state of Iowa in a most effective manner. The men who are working on this committee are true physicians in every sense of the word, and pursue the course that the true way to live up to the oath of Hippocrates is to improve the physician day by day in the scientific methods of taking care of the sick and injured. In other words, they seek not to allow the doctor to become out of date in his reading and study and thereby render himself unable to do the best for the sick and injured who come to him seeking relief from their afflictions. To keep the medical man in the state of Iowa capable of doing the best work, this committee has, each year since its inception, brought a postgraduate course almost to his very door, giving him a chance to be just as up to date in his treatment of the sick as the recent graduates from our medical school. I want to take this opportunity of con-

gratulating this committee for the great work which it has done in the past few years in arranging and conducting these very excellent postgraduate courses. The selection of men to do this work and the proper location of these courses over the state have required considerable time and energy, but this committee has been more than compensated for the work by the very favorable reports which have been received from every place where these courses have been scheduled. It is a great work and a work which will grow and develop as the years roll on into centuries. The Society, through myself, takes this opportunity of thanking this committee for the wonderful work which it is doing, and we also wish to thank Dr. MacEwen, Dean of the College of Medicine of the University of Iowa who has been so generous in furnishing speakers for these courses whenever they have been asked for.

Medical economics is the outstanding subject before the physician and surgeon of today. During the last few years, times have been changing very rapidly and what effect these new changes will have upon the medical profession, time alone will tell. I was very much impressed by an article written by Dr. Townsend, chairman of the Committee on Medical Trends of the American Society of New York. I wish I had time to read to you this whole article. It begins with the history of medicine as far back as 4,000 years B. C., and brings it down through the ages to the present time. One of the very interesting statements he makes is that medicine is not dependent, neither is it independent. In other words, without the public there would be no medicine; and without medicine, there would be no public. Then he goes on to say that it is about time to stop throwing clubs at each other and endeavor to put medicine and the public upon a common ground, to try to arrive at a more complete understanding of our problems than we ever have been able to in the past. These are the times when we must have outstanding leadership. We must admit that those who are advocating something which is new and foreign to past policy, might possibly have something of value, and in order to determine for ourselves as well as for our people, we must ask those who are advocating something which we, at first glance, think may be inimical to the well-being of the people at large, the privilege of sitting down with them and in an intelligent manner discussing what plan would be the best to adopt for the care of the sick and injured, and also the plan that would be the most likely to appeal to the public as well as to the physician. I would be unable to say in what way medical practice should be modified to meet

the changing times, but I can positively state that no change should be attempted without full sanction of the physicians who have not only to oversee all of the care of the sick, but in addition, to furnish much of the equipment used in medical and surgical treatment.

We talk about state medicine and socialized medicine and sickness insurance as being one and the same thing, but there is a vast difference between state medicine and sickness insurance. Russia is really the only country that has a true form of state medicine. In that country the people have very little to say about what doctor they will have, and all doctors are paid a meager salary. This of course, does not refer to the ruling class. Those in this group will always, as they have in the past, have the physician that they wish and recompense him as they see fit. However, the question in this country to my mind is whether compulsory sickness insurance in some form is the best thing for the people and also for the doctor who will have to take care of these people when they become ill. This of course should include only those people who have a moderate income. The great problem is whether the people from Washington and the different foundations who are recommending this form of care for people of moderate income will meet with the leaders of the different medical groups and arrive at some solution which will be for the best interest of the people and the physician; or whether in their lust for power, they will try and force it upon the physician and the public regardless of the best interest of either group. The men who are dealing with this form of health insurance should remember that they are dealing with the lives of a large number of the people in this country and no bureaucrat or politician who is selfishly inclined and who does not have an open mind for the best interest of those who are sick and injured should be allowed to have anything to do with this program. The President of our United States made a statement at Jersey City that "the members of the medical profession can rest assured that the federal administration contemplates no action detrimental to their interests." I only wish he had gone a little farther and said "nor detrimental to the interest of the people."

Dr. William J. Mayo, in a talk which he made recently, stated it rather bluntly but absolutely to the point when he said: "We of the medical profession are determined that we will not be subjected to political interference. We will not sacrifice the spiritual values of our profession for the small material gain held out to us by political and social experimenters who are attempting now to control the practice of medicine. We refuse to be

dictated to by men who are not physicians and who do not understand the sacred obligation of physicians to their patients."

To my mind, it is rather peculiar that during the past few years so much money has been allocated for this group and that group, but the doctor as always, has been the forgotten man. These people who are always talking about alleviating the sufferings of the underprivileged class, about increasing the pay of labor, about shortening the hours of labor and making a five day week so that labor can enjoy the more abundant life, forget that the average gross income of a doctor in 1929 at the peak of our national income was only \$5,403.00, that that income shrank to \$3,088.00 in 1932, and up to 1935 had only increased to \$3,570.00. They also forget that the average number of hours put in by this physician is not forty hours a week or five days a week, but seventy-four hours for a seven day week. While I am in favor of meeting these changing times and these changing forms of practices which are being advanced in a deliberate, persuasive and diplomatic manner, nevertheless it stirs me deeply when I think of our politicians who are socially inclined and our smug philanthropists who sit down and listen to a man like Abraham Epstein and men of that stripe, instead of calling in the leaders of the medical profession and saying, "Gentlemen, we have a situation in this country which we hope can be corrected, at least alleviated in some manner. The problem as we see it is the poor distribution of physicians in sparsely settled communities and the cost of medical care to those in the low income brackets. We wish you would give the matter your earliest consideration and report to us how the matter can best be handled." These men, every one of them who have followed the teachings of Hippocrates since the time they took up their study of medicine, whose primary interest has always been how they can give the most scientific treatment to those who are sick and injured, who have always lived up to the First Commandment of Medical Ethics to give the same treatment to the pauper as to the prince, to the degenerate as to the saint, these men will bring in a plan which the true politician, that is the politician who has the best interest of the American people at heart, will at once see, with possibly a few changes, is a policy not only for the best interest of the people and the physician, but also for our constitutional form of government. Therefore, in studying this proposition, we must return to the foundation of medical ethics. Since the time of Hippocrates, the medical profession has had a code of ethics and that code of ethics has never changed materially. It has always been for the protection of the people against inferior practices;

always for making better doctors and surgeons, but the people must be willing to do their part. If we as doctors perfect ourselves so as to give the people the best that can be furnished them from a medical or surgical standpoint, they in turn must be willing to protect us from scheming politicians, sociologists, and the formation of a bureaucratic control of our profession which would eliminate anything of a confidential nature between patients and doctors. They must also be willing to furnish us a fair compensation for services which are given to them because such services can only be obtained from honest, competent physicians and surgeons. To the poor and underprivileged group, in the future as it has been in the past, charity will always be our watchword, but if the people reach the point where they demand these services without reasonable compensation, then the practice of medicine will begin to deteriorate and the same thing might happen that followed the fall of the Roman Empire. The practice of medicine would deteriorate and gradually disappear, leaving only charlatans and quacks to carry it on.

There is a saying "it cannot happen in America." Let us go a little farther and say, "it must not happen in America." I have absolute faith in our people, in our county, state, and national societies and in our American form of government. Eliminate the fanatic, eliminate those selfishly inclined and let the rest of us get together and formulate a plan which is for the best interest of our people, of our government, and for the doctors to whom the people must always look in time of sickness and distress. In conclusion, I wish to say that with the good-will of the American people as a foundation and with the oath of Hippocrates as our guiding star, we will go onward and upward, always reaching out for more scientific methods in the treatment of the sick and injured, thereby giving to humanity the greatest gift of all, the prolongation of human life as nearly free from sickness and suffering as possible.

PRESIDENT-ELECT'S ADDRESS*

E. M. MYERS, M.D., Boone

Time honored custom requires of me, as I stand on the threshold of my administration, some statement concerning the work to be undertaken. It becomes me, therefore, on this occasion, to leave justifiable exultation to him that taketh off his armour; yet in putting on the armour, it also becomes me to measure our resources, proclaim our purposes, reaffirm the work of the doctor, and declare the relation of the Society to its members and to the public. An organization of such dig-

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13, and 14, 1937.

nity and worth that is to occupy the thought and effort of several thousand scientifically trained men, who, in turn, touch the lives and health of over two million people in our commonwealth, has a right to the public ear. About to be inducted into this honorable and responsible office and for the moment poised between the right of this Society to hear and be heard and my delegated duty to speak, it is my purpose to consider briefly some of the reasons which justify our existence as a Society; some of the agencies by which we endeavor to meet our responsibilities; some of the results accomplished; and some of the pressing demands of the future.

It may be safely affirmed, I think, that this Society as a constituent part of our great profession is the product of advanced civilization, but like abstract words in a language, they imply antecedent cultivation. Our present development seems the growth of a decade, yet we trace our pedigree through many centuries. Not unlike a mighty crusade, we had to make a footing in public conviction before we became a great philanthropic power. Of centuries of such adversity was born our school of medicine. It is not extraordinary, therefore, that from such a genesis would grow a science of investigation and experiment which forsook the empirical for the rational system of research; would develop art's refinement in execution and design; would mature charities to seek out the poor and underprivileged and give them ideas and opportunities with which to relieve their wretchedness; or that there would be unfolded the humanities, those instrumentalities that not only afford culture and lend dignity to the profession but also those impulses that inspire benevolence. Truly, we have a glorious history and a great ancestry because our leaders, notably after that remarkable period of energy and achievement, the Renaissance, were born individualists; they craved unfettered self-expression; they cherished humanity and developed the fundamentals by which men live, with such simplicity and clarity of vision that they have lived on for posterity. No other profession can boast of the same unbroken continuity of methods and ideals and we may well be proud of our apostolic succession. Schools and systems have flourished and gone; the philosophies of one age have become the absurdities of the next; the fatuity of yesterday may become the wisdom of tomorrow; but amid all these changes, our profession has never lacked men who have lived up to ethical ideals.

However, the viewpoint of medicine on the part of the public is being changed. We have passed the point where the physician is one, only to be called upon at a moment of emergency or pain or

disease. He has been drawn into social and economic organizations of mankind which makes his task more difficult, but more essential than ever before. The marvelous progress in the direction of human happiness that has been made through this new relationship, distinguishes medicine from all other professions by its singular beneficence. Every few years reveals some new conquest and there seems to be no limit to the possibilities of scientific medicine. Everywhere the physician is better trained and better equipped; disease is understood more thoroughly, studied more carefully and treated more skillfully.

However, magnificent as has been our progression, lest we become vainglorious and need the cooling shower of humility, we will do well to remember that there is much yet to discover; that many pitfalls lie before us; and remembering them, we must not lapse into unwarranted assurance, but exercise unceasing vigilance in problems which challenge us in the scientific, the sociologic and the economic fields. It seems a lamentable situation "that our profession, which above all others, has taught the world the value of scientific research, at a time when the discoveries of medical science have so miraculously relieved mankind of so many ills, be made the victims of erroneous conclusions drawn from research of another sort." These precarious times seem to be bracketed with two ideas, science and organization, and everything appears to bear the shadow of these terms until we sometimes fear that these are the crutches upon which various agencies hobble into public sympathy and confidence. Under the guise of relief, many projects, schemes and plans have been offered, generally from outside the profession, most of which would work ultimate disaster and which in reality, prove to be only the gospel of desperation. Many professional and amateur sociologists, seeking their own achievement, have seized the dilemma of this period, to propose for us, new and ill-founded legislative measures, which we know would be destructive to the present high quality of medical care. Amid it all, there are a few things never to be forgotten. During all these distressing years, no one has suffered or died for lack of necessary physicians' services. No individual, no group, has ever suggested a lessening of the quality of medical care or a modification of the ethical standards of our profession. However, there is no doctor who feels satisfied with the present method of distribution of that care nor with the burden placed on the profession of furnishing it without remuneration. It becomes, therefore, one of our urgent duties as a Society to study any and every proposed plan, not with the sole purpose of detecting faults, but with a desire to

discover modifications of existing methods that will bring the advances of medical science to their fullest possibilities.

At this point, I would give high rank to the general practitioner and plead for this continuance, even restoration in some instances, to the central position in caring for the sick. There never was a time when he was so much needed or when his power in the community was so potent. He is the standard by which we are measured; the estimate of the profession, in the eyes of the public, is its estimate of him. We are all familiar with the cry that medical knowledge has become so vast and technical that no doctor can utilize it all, but we are also familiar with the fact that the training and education the doctor now receives is better than ever before; that 90 per cent of the existing ailments can be successfully treated by the general practitioner, and moreover, that he is the one best qualified to direct the other ten per cent for special treatment.

Among the many purposes of our Society is the education and protection of its members, but equally important is the general diffusion of medical knowledge to the public to the end that it may be spared the evils of error, the machinations of self-seeking imposters, the retardation of proved health measures, and the material loss through unjust drug advertising, food adulteration, the quack and the charlatan. It is with increasing admiration that we observe how faithfully and well this Society has obeyed these precepts; by lectures and clinics, postgraduate courses, intensive study by special committees in public health and preventive diseases, maternal and child welfare, campaigns for cancer, tuberculosis and venereal disease control, and in legislative and economic questions. Notwithstanding we harbor no distrust as to our loyalty to organized medicine nor indeed our devotion to high ethical ideals, for these impulses through long years of sacrificial service have become an inherent part of our daily life. Nevertheless, we may be deeply concerned lest in our zeal for scientific advancement, we become indifferent to the evident rising tide of socialistic ideas which would destroy all individualistic conceptions of society.

No one, I think, can successfully deny the government the results that have been accomplished by it, nor the fact that abnormal conditions, such as national or local emergencies, epidemics, quarantine, public sanitation, and custodial care of mental and contagious diseases, require governmental power and authority superceding all the rights of the physician. However, unfortunately, plans are now being proposed to do much more than that, even to individual prophylactic measures

and remedial care of the sick. With the knowledge in our possession of like efforts in foreign countries, we entertain a very different opinion for extensive study, and experience in various plans for state medicine, compulsory health insurance and other socialistic expedients, has revealed their weakness and irrelevancy to our needs. In enlisting the resources of organized medicine to resist these insidious influences which threaten us, we have a powerful ally in an enlightened public. Herein lies one of our great, but hitherto neglected opportunities, viz., education of the public, for we have a fascinating but vital story to tell. The public should know of the qualifications and training required of us at great cost; the licensing of men in medicine and the reasons why the medical profession opposes the quack, the cultist and the irregular practitioner. It should know of the increasing accomplishments of medicine and surgery; of the results obtained by individual immunization in the reduction of mortality and morbidity rates; of the never ceasing labors of the physicians, scientists and research workers in the seemingly hopeless task of eradicating cancer; it should also know of the ethics and the economic methods of medicine, and not least of all, we should proclaim to the public that membership in our Society carries obligations and responsibilities, and furthermore, that the county unit does guard the qualifications and character of its members. With this knowledge, the public will cooperate with us for its own good, will require of legislators greater protection from dangerous health laws and untrained workers and will intelligently support social medical measures of worth. It is encouraging, at least, to note that during the past few years, nearly 400 plans for making changes in economic methods, have failed to break down the sound judgment of the public, which, as Dr. Winslow remarks, "when once informed, can be trusted."

Permit me, at this juncture, to consider with you, some of the more intimate affairs of our Society, which concern us directly as members. Edward Bok once painted a beautiful word picture on diligence in which he said, "The three most inspiring things in the world are the majestic mountain, the restless sea and a man at work." My reaction to this rather comprehensive but arresting statement, is that the last of this triad may be applied with particular significance to our activities. My conception of an ideal Society is one in which every member is in its diligent service, eager for scientific advancement; magnanimous in heart and mind; courageous in proclaiming our rights and purposes; heroic in their defense. Fully aware that even an approach to this idealism cannot be made without a general distribution of appointed

tasks, it is my hope, during my administration, to call to service in some capacity or other, those, who by interest in Society affairs, by scientific training and by executive ability, are well qualified, but who have never received recognition. This, by no means, implies supplanting those, who by long years of service have borne the burdens and pointed the way, but rather a blending of the experience of men who are invaluable for their counsel with ambitions of members who are eager to learn the problems of organized medicine; men who are to become the leaders of tomorrow, but who cannot become so without the maturing discipline of experience.

Now, I should like to say a word regarding over-organization. Under our present policy, we have ample and well correlated organizations with the county society as the basic unit. Linked together in groups of nine county units, which comprise the councilor districts, we have, both individually and collectively, infinite possibilities for carrying our messages of education to the public; for promoting scientific and clinical programs for our members, and for formulating protective measures in our economic life. The amazing demand by lay organizations, especially through the Woman's Auxiliary, for popular scientific programs and for post-graduate courses by physicians from all parts of the state, is a most encouraging sign, and it has been most successfully met by our Speakers Bureau, the outstanding example of real constructive work in our Society. Let us then, not devote our energies in promoting extraneous societies but develop what we have, and above all, foster the county society meetings where every member may have a part, where friendliness, harmony and concerted purpose may be nurtured without the imbrication of time, expense and effort.

It has been remarked that our annual programs are ultra-scientific, better suited for an Academy of Science than for the general practitioner. My observation, after some inquiry, is that this criticism is not general nor is it supported by facts, because a review of past sessions will reveal diversity in practical subjects, admirably designed for all classes of listeners. There is every reason for maintaining our present high standard. Medical practice is not static. Indeed, no other relationship in life calls for such zeal for research and such pragmatic application of principles, such loftiness of ideals, or such plasticity to reflect the spirit of the times and to move with it, as does the practice of medicine. Let there be no diminution in the high quality of our programs.

In our struggle for the consummate in our medical lives, protesting the while the intrusion of the cults and the irregular practitioners, we may as

well philosophically conclude that they are the fruits of our own looseness in planning our medical curricula. The psychology of practice has never attained the position of importance it deserves in our medical teaching. Opportunists, quick to seize upon our indifference to the great class of nervous and mentally distressed individuals, have brought forth bizarre schools of practice. While we are opposing them with the most effective weapons we have, education and legislation, we may, at the same time, with profit, consider the philosophy of the doctor of the old school. "He may not have been proficient in the use of the test tube and microscope but he knew well the art of bedside psychology." True, it may come to pass that the many phases of socialized medicine may temporarily impede the advancement of medical progress, and alter the forms and methods of practice and the distribution of its benefits; but this jeopardy, in addition to the added dangers with which we are confronted, of destruction of the very element which can assure close and enduring personal relation between the doctor and patient and the substitution of fallacious social forms, will, I am confident, arouse us to renewed courage and concerted action. These artful political and bureaucratic devices must be so persistently opposed and so firmly controlled, that we shall be able, at all times, resolutely to declare, "who shall be the master of our own house."

With abiding faith in our loyalty to and our defense of the fundamentals in medical art and science, with their manifold and complex contacts with everyday life, my concluding exhortation is this: let us not be disheartened, the direction of our vision is everything. "Medicine, vitalized by the motives and ideals of the doctor, the principles underlying them, and the great good inherent in them, will continue its beneficent work through the ages."

THE DEVELOPMENT OF ASEPSIS*

ALICE HUMPHREY HATCH, M.D.
Des Moines

Let your imagination carry you back to the conditions as they existed in medicine and surgery one hundred years ago. No one knew the causes of infectious and contagious diseases. Gangrene, erysipelas, puerperal fever, syphilis and gonorrhea, cholera, plague, malaria and typhoid fever were common. Prior to 1836 all surgery had to do with surface surgery such as opening of abscesses, dressing of wounds and as a last resort, amputation of limbs. There was universal infection of

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wounds often followed by gangrene or general blood poison. No one had seen a germ or knew of its existence. Hospitals were few, poorly equipped and badly managed. Sanitation was unheard of and even common cleanliness, as we understand it, was unobserved. The lying-in-hospitals of Europe were veritable hotbeds of infection and deadly to most women entering them. At one time the death rate rose in the Maternity Hospital of Paris, and in the Lying-in-Hospital of Vienna, to such an extent that ten to twenty per cent of all women entering them died of puerperal fever. So severe was the criticism among the laity that those institutions would have been closed had there been any other place to care for these poor women.

Probably the first early writings on the subject of cleanliness came from Charles White of Manchester, England in 1773. While he probably was not aware of the transmission of infection from patient to patient by the physician and nurses he seemed to recognize the importance of common cleanliness and observed that a suppressed lochia was followed by sepsis. He advocated the upright position when voiding and while nursing the child. His writings had a good influence on his associates in the British Isles. Our own Oliver Wendell Holmes, in an address written in 1843, discussed at length the probable causes and means of communication of puerperal fever in hospitals and in private practice in our own country. He seems to have conceived the idea of the infectiousness of the disease and theorized on the probable fact that physicians would carry the disease from one patient to another. Later in 1844 he refers to numerous cases which to his mind proved the theory of contagion and infection. A series of cases was reported in 1850 showing conclusively that erysipelas was infectious.

Ignaz Philipp Semmelweis was born in Budapest in 1818 and died in 1865. This Hungarian physician was graduated from the University of Vienna in 1844. His chosen profession was obstetrics, and he became connected with the first division of the Lying-in-Hospital in Vienna, while the second division was in charge of midwives. He soon observed the frightful mortality rate among his patients as compared with the second division. During the first year there were 565 deaths from puerperal fever. He observed that he and his assistants came directly from the dissecting room, and with the odor of the cadaver still on their hands went at once to the wards and began examining women in labor. In a few days these women would be seized with a chill, which was followed by fever, and in from three to five days they would

be dead. No one understood why this procedure took place, but Semmelweis was troubled. It was not until one of the professors died of a blood poison caused by an accidental wound from a dissecting knife of one of the students, that an autopsy disclosed the great similarity in the pathologic findings to that of the women dying of puerperal fever. He demonstrated that both types of death were the result of blood poisoning. He further proved that washing the hands in a chloride of lime solution before making these examinations tended to prevent these infections. After this practice was established the death rate was greatly reduced. He and his associates washed their hands in a solution for some time until they became slippery, and thus clean hands became the rule.

Joseph Lister was born in 1827 near London, of Quaker origin. His father was a member of the Royal Society of Medicine, made so because of his contribution to optics and the construction of the telescope and the microscope. While the microscope was first used in the fifteenth century it was not developed for practical purposes until the eighteenth century. At an early age, Lister became interested in surgery and was educated at the University College of London. In 1853 he became an assistant to James Sayer at Edinburgh, and developed into a brilliant and capable surgeon. He was greatly troubled because the wounds of his patients would become infected, and was always seeking after the cause. In 1865 his colleague, Dr. Thomas Anderson, professor of chemistry, called his attention to Pasteur's discovery of germs as the cause of fermentation. Gradually he came to believe that decomposition in wounds may be caused by a sort of fermentation and that by excluding the air from the injured part, infection might be avoided. He developed the idea of applying crude carbolic acid spray, not only to wounds but to instruments, dressings and even on the hands of the operators. Gradually his theories were accepted. In 1871 he introduced the rubber tube as a means of drainage of infected wounds. The above information was gleaned from Victor Robinson's "Pathfinders in Medicine." In this volume one may also find that Koch's efforts in the department of health in Berlin wrought great transformation in the technic of the study of pathology. He spread meat gelatine on plates and developed a transparent media for pure bacteria cultures.

Meanwhile Pasteur in France was investigating along the lines of chemical and microscopic study into the cause of fermentation. He was a professor of chemistry at Lille at this time, 1857. He proved that alcoholic fermentation was a product of the yeast plant, and also that acetic fermentation was a product of a living ferment. At this

time there was a great controversy regarding spontaneous generation, which had been the accepted theory of life. Pasteur proved that material would remain unchanged for an indefinite time if any means were taken to prevent the germs in the air from entering it. He showed that the germs were in the air by catching them on a filter of powdered sugar. He drew blood and urine into heated glass tubes and sealed them up from the air. Some of these have remained unchanged for fifty years. Thus it gradually became known that heat will destroy germs and that exclusion from air will prevent the fermentation of substances. He also exploited the common belief in spontaneous generation, by showing that germs of various sorts were the causes of fermentation as well as diseases. The discovery of Edward Jenner that cowpox would serve as a protection against smallpox was used by Pasteur in making some of his investigations and experiments. He generalized that in the case of various maladies the infection depended on the presence of a specific microbe. He found that cultures of these microbes might be obtained and that by a certain succession of such cultures they became so weakened or attenuated, that by treating another animal with this serum the animal so treated became immune to the disease. He extended this idea to the treatment of rabies and to cholera. His discovery of antitoxin followed in 1885.

Louis Pasteur had been born in France in 1822. He was an earnest and honest seeker after truth and ready to accept it wherever found. Being a chemist, his early discoveries were along chemical and commercial lines; he discovered the germs that caused vinous and acetic fermentation, and thus his fields of investigations were micro-organisms. A new world of living germs became his field. In 1860 he proved that the souring of milk was due to bacilli, and he showed how this could be prevented by a method of heating it and keeping in sterile containers, a method now known as pasteurization. By developing a succession of pure virus cultures of the disease virus he was able to produce a vaccine that would prevent and cure that disease. In 1885 he developed a virus which antidoted hydrophobia. Pasteur discovered the germs that caused anthrax and an antidote. He developed an antitoxin for the prevention of diphtheria, and was the first to discover staphylococcus and pneumococcus. Thus he really became the Father of preventive medicine.

Aseptic methods were slow to be accepted as recently as 1893 and 1894. Our professor of surgery used to refer to "laudable pus" and I remember the professor of obstetrics one day placed a basin of cold water, soap, and a towel on a nearby

washstand in his effort to teach cleanliness to his students. The subject was instrumental delivery; the rubber manikin, the object to be delivered. Four students (seniors) were called and as quickly dismissed because none of them observed the formality of washing his hands before applying the instruments, which not even the professor had thought of sterilizing.

Fifty years have witnessed many advances in the development and perfection of asepsis. Now we have the steam sterilizers in every hospital where all dressings are sterilized, even to the operating gowns of the surgeon and all his assistants. All instruments are properly prepared and handled by clean nurses and assistants wearing sterilized rubber gloves, and sterile gowns. Thus we see that one hundred years have wrought many changes, all of which tend to lengthen human life and render it more comfortable.

ROENTGEN DIAGNOSIS OF PRIMARY INTRATHORACIC TUMORS*

DAVID M. EARL, M.D.

From the Department of Radiology, State University of Iowa Hospital, Iowa City

The subject of intrathoracic neoplasms, and especially cancer of the lungs and bronchi, has excited considerable interest in the last few years, and an extensive literature is now available. A statistical survey will not be considered in this paper but it is pertinent to note that the incidence of primary malignant disease of the lungs is increasing.

Modern advances in surgery and radiotherapy have now made possible the removal or regression of at least some of these tumors, and the importance of early diagnosis is therefore paramount. Only in the strictest pathologic sense is it possible to divide intrathoracic growths into those that are benign and those that are malignant. However, differential diagnosis is usually dependent mainly upon radiologic examination. Even benign neoplasms may be fatal through pressure on vital structures.

Since the incidence of benign intrathoracic growths is low compared to that of the primary carcinomata, the study of this subject has been less intensive. Every type of benign growth can be found in the thorax. Chondromata and fibromata have been described by various authors as being the most common growths of this type. According to Lenk¹, the former depends upon its calcium content as well as upon its usual occurrence in the anterior part of the chest for roentgen

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recognition. Fibromata more frequently arise posteriorly from the periosteum or endothoracic fascia. These growths may likewise be intrapulmonary in origin. Aside from pressure effects, they cause little or no reaction in the surrounding tissue.

Cysts of the Lung: Lenk¹ states that cysts may be classified as true or false, congenital or acquired. True cysts are usually filled with fluid, rarely with air. It is important, therefore, to determine whether these cysts are close or communicate with a bronchus; that is, whether they contain air and whether or not they are infected. Congenital cysts may or may not be associated with bronchiectasis, may be single or multiple, unilateral or bilateral. Acquired cysts of the lung may be parasitic, the result of breaking down of tissue, or of the inclusion type. Echinococcus cysts are rare in North America. Although usually spherical in outline these cysts may be unilocular or multilocular. They occur more commonly at the periphery of the lung and the rate of growth is variable. If the cyst has ruptured into a bronchus, a fluid level may be present. The roentgenologic picture may at times be confused with that of pleural effusion, aneurysm and mediastinal tumor. A rapidly growing tumor may have a central ischemic necrosis with cavitation or pseudocyst formation.

The differential diagnosis of cystic disease of the lung may be difficult or impossible. In such a differential diagnosis, one must consider pneumothorax, bronchiectasis, empyema, hydatid disease, central necrosis in tumor tissue and emphysematous bullae. The lesion usually presents the roentgen ray appearance of an annular shadow and must therefore be considered a cavity.

Mediastinal Dermoids and Teratomas: The terms dermoid or inclusion cyst and teratoma are often used indiscriminately to refer to those tumors which contain tissue that represents a mixture of incompletely formed ectodermal and mesodermal structures. Although strictly speaking these terms cannot be used interchangeably, clinically the two conditions are often indistinguishable, and will, therefore, be discussed together. They arise most commonly from the third and fourth branchial clefts and are located in the anterior part of the mediastinum in front of the heart and great vessels, but the positions which they assume later may be varied.

Roentgenologically, these tumors are dependent upon their anterior location and calcium content (bone or teeth) for identification. They may become infected, at which time all of the usual effects of inflammation ensue. This complicates the diagnosis, and when ulceration into the lung occurs, the mistake is often made of considering the case

one of primary tumor of the lung. Malignant degeneration is an occasional complication of the teratomatous tumors.

Tumors of the Thyroid: We are here concerned only with intrathoracic goiters². They may occur at any age, are nearly always nodular, and may be bilateral. The presence of intrathoracic struma is usually suggested by displacement or compression of the surrounding organs, particularly the trachea; the esophagus is seldom displaced. A substernal thyroid, depending upon its size, may displace the arch of the aorta. The innominate vessels, according to Lenk¹, sometimes contribute to the contour of the tumor. Roentgenoscopic observation shows that a substernal thyroid rises into the neck with coughing and swallowing. The differential diagnosis includes aneurysms of the innominate artery. An aneurysm of this type may appear to be intimately associated with the aorta due to the fact that their contours overlap. This forms a broad aortic base for the aneurysm, which base is broader than that formed by a substernal thyroid in the same location. The aortic arch may be displaced downward in extensive intrathoracic enlargement of the thyroid, but elevation of the arch is more often the rule when the abnormal shadow is due to an aneurysm of the innominate. Substernal thyroids may undergo calcification and malignant degeneration similarly to suprasternal portions of the gland. No examination is complete without roentgenoscopic and roentgenographic studies.

Tumors of the Thymus: If the thymus is present in any considerable size it will be found to overlap the base of the heart. The lateral lobes are visible on the roentgenogram only because they encroach upon and are delineated by the lungs. Thymoma or lymphosarcoma is the most frequent form of thymic tumor. This tumor occupies the anterior mediastinum and usually extends from the sternal notch or higher down to the diaphragm. Thymic tumors may surround and compress the trachea, bronchi, pericardium and great vessels. (Further classification and interpretation of tumors involving this gland will not be undertaken in this paper and the reader is referred to Ewing for such information.)

Aorta: Recognition of aneurysmal involvement of the thoracic aorta is not always the simple matter that our texts would have us believe. However, if the following characteristics can be distinguished radiologically, a diagnosis of aneurysm may be made with certainty.³

1. Lack of parallelism of the contours: This is one of the most important and reliable signs. The other aortic lesions manage to retain some semblance of parallelism of the vessel walls.

2. Precision of contours: The contours of an aneurysm are usually clear and linear; however, of necessity the outline must be somewhat hazy upon the film due to pulsation during exposure. The curves of an aneurysm are usually rounded and there are no sharp angles, no finger-like projections such as may be seen in carcinoma, and no polycyclic contours such as are made by glands. However, this characteristic is not pathognomonic. Occasionally a mediastinal tumor is marked by outlines of perfect clearness simulating arterial walls.

3. Homogeneity of shadow: The aortic shadow is most often homogenous, and, in the differential diagnosis, if this sign is absent, serious consideration of the possibility of the shadow being of other origin must be entertained. In aneurysms of the dissecting type, however, this inequality of density within the aneurysmal shadow may be encountered and is of great diagnostic value.

4. Pulsations: Failure to recognize pulsations in a suspected aneurysm does not rule out this diagnosis, as this not infrequently occurs. However, when arterial beats are visualized, the clinical impression is fortified. Furthermore, one must be aware of the possibility that the tumor may be of mediastinal origin and the impulse transmitted.

A diagnosis of aortic aneurysm is made more readily and with greater certainty if the aforementioned qualifications are detected. (Aneurysmal involvement of the innominate vessels has been considered in differentiation of substernal struma).

Mediastinal Lymph Nodes: Tumors of the lymph nodes include tuberculosis and malignant lymphoma. When the tubercle bacillus is the offending agent, calcareous deposits commonly betray this fact and their presence in adults is ordinarily not considered of any significance. Of the remainder, Hodgkin's disease produces the bulkiest masses of glands encountered in this region. The true nature of these glands is largely conjecture, unless the entire clinical picture is taken into consideration and then the evidence is confirmatory.

Primary Carcinoma of Lungs and Bronchi: The average age of patients afflicted with carcinoma of the lower respiratory tract is fifty years. The male sex is affected about five times as often as the female and there is a preponderance of right side involvement, the upper lobe being one of the common sites. There is some dispute as to the site of origin but it is felt that most of the malignancies start in the larger bronchi near the hilum. That the large majority of the primary carcinomatous lesions of the lung are in this location is extreme-

ly important from the standpoint of detection, including biopsy.

The ultimate result of a growth in this location is bronchiostenosis causing atelectasis of the lung supplied by the involved bronchus. The tissue, being deprived of its function, is subject to the following changes, which may be more or less pronounced; atelectasis, drowned lung, abscess, bronchiectasis, thickening of the pleura and frequently pleural effusion, any one of which serves to confuse the correct interpretation of the primary underlying condition. Furthermore, because of this atelectasis the mediastinum will shift to the involved side, especially during inspiration, and the diaphragm on the same side will be elevated, which fact may be due to involvement of the phrenic nerve. The resulting roentgen findings fall into two groups; the direct evidence where changes are due to the growth itself and the indirect, in which the abnormal shadows are due to secondary effects.

Although there has been some confusion about the classification of primary lung tumors, it is now generally conceded that the great majority arise from cells in the bronchial epithelium or from the bronchial mucous glands. A satisfactory standard classification of the type and site is wanting but the one which will be used here is that of Melville⁴ and ⁵ because it is simple and sufficient for our clinical purposes.

Primary Bronchial Carcinoma: Upper lobe carcinoma arises from a large bronchus close to the bifurcation of the trachea. As soon as it has blocked the bronchus the part of the lobe supplied by it collapses, so that what the roentgenogram shows is not the growth, but the upper lobe of the lung, opaque and airless, with the line of the opacity sharply demarcated by the interlobar septum.

Some of the carcinomata originating from the region of the hilum, in addition to causing stenosis of the bronchus, appear to invade the bronchial wall, traverse it, and spread to the lung tissue. The growth is then most irregular in form, and there are heavy linear processes seen extending into the lung tissue. There is much general enlargement of the bronchial glands. At times these findings may be mistaken for interlobar empyema and nothing but the closest cooperation between clinician and radiologist can avert this error.

Lower lobe carcinoma is difficult to diagnose. The lower lobe is irregularly opaque and there is almost universally early pleural involvement with effusion which also tends to obscure the condition. To these difficulties we must add the early occurrence of degenerative processes (central necrosis,

et cetera) so that the distinction between carcinoma, abscess or bronchiectasis becomes increasingly difficult; nor does the clinical evidence assist greatly.

In conclusion, the employment of artificial pneumothorax and endotracheal lipiodol will, in selected cases, be found of great diagnostic aid in the location of intrathoracic tumors. The salient features in the differential diagnosis of primary intrathoracic tumors have been stressed from the radiologic point of view.

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Discussion

Dr. James V. Prouty, Cedar Rapids: I want to compliment Dr. Earl upon the complete and concise manner in which he has given us the roentgen findings in this interesting subject. A few years ago the clinical diagnosis of primary intrathoracic tumors was relatively uncommon. Many of those patients were undoubtedly thought to have tuberculosis, lung abscess, or some other chest condition. Even now, with the combined skill of the clinician, the bronchoscopist, and the radiologist, we may fail to make the correct diagnosis. However, with the increasing use of x-ray examination and bronchoscopy in chest diseases, more of these tumors are being recognized. Roentgen therapy also has been of some practical value in the differential diagnosis, especially of those tumors arising in the mediastinum. We know that thymomas and lymphosarcomas respond readily to adequate treatment and as a rule disappear in from seven to fourteen days. The endotheliomas and Hodgkin's disease decrease in size more slowly, while carcinomas, fibrosarcomas and the benign tumors show very little if any response to the same quantity of radiation.

Since the occurrence of bronchogenic carcinoma is apparently increasing, it might be well to consider some of the clinical symptoms as Dr. Earl has given you the roentgen findings. The symptomatology depends largely upon the size, location, and the secondary changes produced by the tumor. A persistent cough which gradually becomes worse is often the first complaint. It is usually accompanied by mucopurulent expectoration which is not infrequently streaked with blood. Hemoptysis may be the first symptom and gross hemorrhage is not uncommon later in the course of the disease. Pain is a frequent complaint. It is usually constant and more pronounced when the pleura, bone or intercostal nerves are involved. Dyspnea occurs when atelectasis is

present or there is pressure of involved lymph nodes upon the trachea or bronchi.

Metastasis often occurs early in the course of the disease before the primary lesion is suspected and the predominant symptoms will be extrathoracic. Such symptoms are very misleading and depend largely upon the extent and location of metastases. The most frequent sites of extrathoracic metastasis are cervical lymph glands, adrenals, liver, kidney, abdominal glands, bones and nervous system. In selected cases where the diagnosis is obscure it might be well to consider the possibility of bronchogenic carcinoma even though the pulmonary symptoms appear to be of little significance.

AVULSION OF THE TIBIAL TUBERCLE IN THE ADULT

With Report of a Case

LEWIS M. OVERTON, M.D., Des Moines

Fractures of the tibial tubercle in the adult with partial or complete avulsion of the loosened fragment is a definite, though rare clinical entity. This lesion must be differentiated from the lesion that is not infrequently encountered during the growth period. The latter lesion falls into the group of osteochondritis of the growth centers; a correlation of which has been reported by the author in a previous communication.⁷ The rarity of fractures of the tibial tubercle may be emphasized by the fact that only seven cases were found reported in the literature and one of these occurred in the presence of a preëxisting pathologic condition.⁵ A single case which recently came under our care makes a total of eight cases that have been reported.

CASE REPORT

A man, sixty-two years of age, was first examined on April 3, 1936. He gave a history of having been injured in an automobile accident about



Fig. 1. Tibial tubercle avulsed and displaced upward

one-half an hour previously. Following the accident, the right knee buckled under him when he attempted to walk and he had been unable to

straighten the knee voluntarily. On further questioning of the patient, it was learned that he had been dazed at the time of the accident and had not been aware of any injury to the knee until he had attempted to walk.

Examination revealed an elderly man who was in good general condition. There was no evidence of shock. Examination of the right knee disclosed a large abrasion and a severe contusion directly over the tibial tubercle. The patient was unable to extend the knee voluntarily. On palpation one could feel the patella to be intact, but it was displaced upward about one and one-half inches. Another bony mass was palpated at about



Fig. 2. Eight weeks after open reduction; union has taken place.

the level where one usually encounters the lower border of the patella. This bony mass was freely movable. However, when it was moved down toward the tibia the patella moved with it. The roentgenogram revealed this bony mass to be the tibial tubercle which had been completely avulsed and displaced upward.

The treatment indicated was that of open reduction and fixation of the fragments. This had to be delayed a few days to allow the abrasions to heal. When the skin had healed and was clean, it was prepared surgically with green soap, alcohol and merthiolate. Then with the patient under spinal anesthesia, a tourniquet was applied around the thigh; and a longitudinal incision was made over the tibial tubercle. On exposing the site of the avulsion, large blood clots were found to fill the cavity from which the tibial tubercle had been torn. The avulsed tubercle was badly comminuted but all fragments were still firmly attached to the patella ligament. The blood clots were removed from the cavity and the tibial tubercle was then restored to its anatomic position. Forty day chromic catgut was used as mattress sutures through the periosteum and patella tendon. When these had been tied snugly, the bones were held in place

firmly. The wound was closed without drainage and a plaster of paris cast was applied, which extended from the toes to the groin with the knee placed in complete extension. At the end of three weeks, the stitches were removed and a new cast applied. This was worn until the end of the eighth postoperative week. As union was firm at this time, physiotherapy and weight bearing was begun. A follow up eight months after the injury revealed that the patient had obtained an excellent result.

COMMENT

An analysis of all cases that have been reported previously, as well as the case in this report, reveals that, in every instance, the condition had resulted from trauma. This trauma had been either a direct blow over the tibial tubercle or a violent contracture of quadriceps muscle. In our case, the severe trauma of the soft tissues overlying the tubercle was definite evidence of a direct blow. Probably this had been produced when the knee jammed against the dash board of the automobile at the time of the accident. It is also interesting to note that, in all cases reported, the lesion had occurred during or after the middleaged period of life. This is contrary to the findings that one would expect, because these individuals have already passed through the active period of life, the time during which the stress and strain on the ligaments and their bony attachments would have been the greatest. This probably can best be explained on the basis that the bone has become more or less osteoporotic in many individuals after they have passed the fourth decade of life. Other factors, such as a preëxisting pathologic lesion, may further weaken the bone as is demonstrated by Senn's case.

The end result in these cases is generally very good because union nearly always takes place in the type of bone that is involved in these fractures. The only requisite for this is that the avulsed fragment be restored to its anatomic position and held there until union has taken place.

704 Bankers Trust Building

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PROPHYLAXIS AND EARLY DIAGNOSIS
OF HEART DISEASE*

I. Rheumatic Fever

ALLAN G. FELTER, M.D., Van Meter

Vital statistics indicate today that cardiovascular disease has been proclaimed the captain of death among mankind. Not so many years ago this distinction was held by tuberculosis, which has been attacked with great courage, patience and ample funds, and miraculous results have been attained in its prevention and control. Today our position in regard to heart disease is the same as our position was some years ago in regard to tuberculosis. The control of heart disease as such has barely been attempted. A splendid opportunity confronts us because the field is virtually untouched. Of course we can never expect to displace heart disease as one of the principal causes of death, since fast becoming of first importance in numerical strength, are the deaths from the so-called senescent or degenerative forms, and we hold no illusions of discovering any fountains of eternal youth or rejuvenation by gland specialists which will endow our hearts with perpetual motion.

For centuries heart disease was considered very largely from the viewpoint of structural changes in the heart, such as myocarditis, mitral stenosis and aneurysm. Later the conception of heart disease from the functional standpoint was more readily recognized. In recent years the etiology of heart disease is receiving more and more careful study and consideration. It appears that perhaps at least 35 to 45 per cent of all types of heart disease at the present time have their etiology in infection. It is in this type of heart disease that the most spectacular and effective results in the prophylaxis of heart disease are to be attained.

Rheumatic fever is an infectious disease of extremely variable courses and is responsible for more cardiac pathology than perhaps all other infections. It is a disease of problematic etiology; but is generally considered to be a systemic infection caused by the invasion of a bacterium, streptococcic in type. We can no longer consider it an arthritis. When the major inflammation is in the joints, the disease is most readily recognized; when the major inflammation is in the brain and nerve cells a chorea results. In approximately 75 per cent of the cases there is inflammation of the endocardium, either accompanied by one or the other of the aforementioned symptoms, or, as is sometimes the case, independent of either an arthritis or a chorea. So serious is the damage

done to the heart, that rheumatic fever is considered responsible for as high as 40 per cent of cardiac pathology in New England, and as high as 95 per cent of the cardiac pathology of the children in the same area. Rheumatic fever attacks all classes and races, but is found more often among the industrial classes and in those living under poor conditions. It is more prevalent in the colder part of the temperate zone where humidity is great. There are seasonal variations, and a marked familial tendency is evident. As to age, the period of greatest infection is between eight and eleven years of age, although the average is about seventeen years. In general the earlier the infection the more severe and crippling are the effects. With marked frequency a proceeding infection of the upper respiratory tract has been experienced. The effects upon the heart are so serious in 75 per cent of patients with rheumatic fever that the average length of life after infection has been estimated at less than fifteen years. The average time elapsing until onset of cardiac failure, as evidenced by fatigue and dyspnea is eleven years, and the time from the onset of these symptoms until death intervenes has been variously placed at three to five years. After the progress of one thousand cases of rheumatic fever at The House of the Good Samaritan in Boston had been followed for an average of ten years, Dr. Bland reported as follows: "Three out of four have heart disease. The mitral valve is involved in 98 per cent. One-half have also aortic involvement. Two out of one hundred have aortic involvement alone. Twenty per cent are dead at the end of ten years; two-thirds are living normal lives; eleven and one-half per cent are moderately limited in activities; two and one-half per cent are cardiac cripples. With each succeeding decade, those of limited activities will increase in seriousness."

It is evident then that a consideration of the etiology and prophylaxis of heart disease involves most certainly the etiology and prophylaxis of rheumatic fever. Environment, proper food, adequate clothing, and all available means of avoiding upper respiratory infections should be considered. Infected tonsils and those filled with cryptic deposits should be removed as a preventive measure rather than as a cure. Periodic examinations, either in school or by family physicians, should be made frequently, and those of familial rheumatic history should be especially scrutinized and guarded.

DIAGNOSIS

The diagnosis of rheumatic fever at its onset is not always easy. If there is sudden high fever with swollen, red and painful joints, the diagnosis

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is self evident. However, Lewis states that the insidious onset is more common. Too often we familiarize ourselves with a series or classification of established changes in a particular system, and having studied the histopathology and accustomed ourselves to a certain syndrome we let this syndrome represent to us a disease entity. With too little thought of the degenerative changes and infections which have produced the syndrome constituting to us the disease entity, we proceed to cure the entity by the antidotes discovered through medical research or perchance stumbled onto during ages past. All too seldom do we recognize the state of dysfunction or disease, or infection that is bringing about any certain series of established changes which ultimately awaken our slumbering consciousness to the fact that at last we have the classical syndrome and therefore a disease exists. Among the many symptoms and signs of the less spectacular onset of rheumatic fever we have the following: fatigue; loss of weight; pallor; anorexia; epistaxis; irregular pains, that is, growing pains, abdominal pains, and precordial pain in ten to fifteen per cent; acid sweats; fever; sore throat, tonsillitis; tachycardia; leukocytosis; murmurs; PR interval prolonged in about twenty per cent of electrocardiograms; hypertrophy of heart percussion; chorea, lesser heart damage; erythema nodosum; rheumatic nodules; pericardial friction rub; and joint symptoms.

Since eleven per cent of rheumatic heart disease cases give no history of attacks of rheumatic fever, any patient, particularly a young patient with acute infection and fever, without localizing signs should be suspected of having rheumatic fever.

MANAGEMENT

Having made a diagnosis of rheumatic fever, we must do all in our power to protect our patient from heart damage. Prolonged rest in hygienic surroundings is of greatest importance. No longer do we expect to cure the infection with salicylates or any other drugs, although these may promote comfort and make possible more complete rest. We expect functional murmurs because they are common; we watch for changes in cardiac murmurs knowing well that the pathologic deformity of valves cannot always be ascertained for months or years. Ultra violet light and vitamin diets have been tried with little or no benefit. Warmer climates are probably advantageous if it is possible to transfer our patients. We should expect heart complications at any time during the course of the disease if there is a sudden increase in pulse and temperature without joint involvement. The leukocyte count may increase several hours before the temperature increases. The average period

of rest in bed at the House of the Good Samaritan has been found to be four months, although it may be as much as two years. Not until the rectal temperature stays under 100 degrees, the patient is gaining in weight, the white blood count is under 10,000, and the sedimentation test is normal, is it considered safe to let the patient up. One hour out of bed for the first week, and increasing an hour a day for the next six weeks is the usual procedure, providing there is no recurrence of symptoms.

THE PATIENT WHO HAS HAD RHEUMATIC FEVER

Every patient who has experienced an attack of rheumatic fever may be placed in one of four groups. First, if he is fortunate enough to survive the attack with no demonstrable cardiac pathology, he must still be considered a potential heart case and should be advised to avoid unwise excesses, to go to bed when he has a cold, and to protect himself from needless exposures. Second, if the patient has slight cardiac damage, without effect on cardiac function, he should observe the above precautions and should pursue ordinary active pursuits in order to develop that cardiac reserve which we must have in order to withstand unusual and unavoidable stress and strain. It is thought that the greater seriousness of rheumatic heart disease among females, is partly due to the fact that when the boy is reasonably well and out of sight of parental indulgence, he runs and plays and climbs trees, and engages in other activities which strengthen the cardiac reserve. The girl who has suffered heart infection is often guarded and spends her time in reading and fancy work. When the strain of child-bearing, or some acute infection occurs, her cardiac reserve may be inadequate to the demands put upon it. This class should be active, although avoiding competitive contests such as interscholastic athletics. The third class into which our patient may fall is that in which the heart is unable to stand the stress of ordinary life, and his activities must be somewhat restricted and interspersed with rest periods. The fourth class includes the less fortunate ones whose crippling defects necessitate bed rest and from which recovery seldom occurs.

RECOGNITION OF IMPENDING HEART FAILURE

Finally, it is essential that we be on the alert to recognize and diagnose beginning heart failure in our patient who has once had rheumatic fever. It is highly desirable that such beginning failure be discovered in the functional or pre-symptom stage if possible. It has been stated that "The very essence of cardiovascular practice is recognition of early heart failure and discrimination between different grades of failure." We wish to

distinguish two stages; first, the stage of waning reserve; and second, the stage of actual signs of circulatory embarrassment and breakdown. Symptoms result from faults in function. Instead of tuning our ears to the symphony of classical murmurs, many of which may have persisted for years without relation to function, let us first consider functional distress. A patient submits himself for examination. Two questions present themselves to us for solution; first, has the heart the capacity to do the work which is demanded of it; and second, what is the condition of the cardiac reserves. The first indication of cardiac failure may be an increased heart rate, and rate plus dynamic force are important factors, in the study of the status of cardiac function. We have a patient recovering from an infectious disease. The rate is above normal. Is this due to some psychic or non-essential factor, to increased metabolism, or to loss of myocardial force and an effort to compensate for the latter? Observation of the sleeping rate will sometimes decide whether or not the myocardium is at fault. Again the apnea test may render valuable assistance. It is claimed that psychic or emotional tachycardia can be recognized by having the patient hold his breath. This is best seen following expiration. By arresting breathing, a temporary bradycardiac action is created which urgently stimulates the vagus, the accelerator action of the sympathetic nerves is cut out, and the heart comes under vagal control. A slower pulse rate under these conditions is a favorable indication. Metabolism tests are often required in ruling out increased metabolism as an essential factor in tachycardia.

Probably the first symptoms which a patient notes at the onset of cardiac failure are fatigue and a limitation of activity through breathlessness or increased breathlessness on usual exertion. The complete course from health to constant distress is usually associated with breathlessness from an inadequate supply of aerated blood to the head and neck. We need not resort to mechanical means of measuring vital capacity; in fact, no standard gives us information equal to that obtained by a careful history. If we can elicit the fact that a patient has more respiratory discomfort after retiring, that he now uses two pillows instead of one, that he becomes short of breath on climbing the stairs, or more short of breath than he formerly was on performing some ordinary task, then we have found available and pertinent criteria. We cannot measure one man's reserve by another man's capacity or by a universal standard. If a patient is unusually fatigued following slight exertion, we must think of lowered cardiac reserve, especially if the fatigue is

promptly relieved by rest. If the fatigue is not relieved by rest, some non-cardiac factor, such as infection or toxemia must be considered.

SIGNS OF CONGESTIVE FAILURE

Next in order are the signs of congestive failure. Let us reiterate that nine-tenths of the cardiac reserve has been depleted before these signs appear. Not until the output at rest begins to decline do we have manifest signs of engorged veins from the blood collecting on the venous side. Fortunate still is the patient whose early signs of failure are recognized and whose activities are adjusted before more distressing conditions develop. The increased size of the heart is more important than the heart sounds. The patient who complains of epigastric distress with flatulence may be suffering from an early venous congestion of the liver. Percussion may elicit the earliest sign of such congestion. If the heart fails to transfer enough blood from the venous to the arterial side, the blood collects in the veins and as they swell we have our first signs of circulatory failure. Direct measurement of venous pressure is not adaptable to general use. However, Lewis has described a simple bedside test, which is universally applicable. This method is based upon observation of the level at which the veins collapse. In the normal individual distention of the veins ends at a height representing atmospheric pressure almost at a level with the manubrium sterni. Veins in the relaxed hand will normally collapse if the hand is lifted above the level of the manubrium sterni. Natural swelling of external jugular veins will extend one-third of the way to the jaw according to the tilt of the neck. The venous level rises to various heights in congestion. It may rise to the middle of the sternocleidomastoid muscle or if the congestion is great the jugular veins are engorged to higher and higher levels. Never are these veins filled in the normal unclothed person in the upright or standing position. Whenever pulsation can be seen in the superficial veins of the neck in the erect patient the veins are too full, and the level of pulsation is indicative of the degree of congestion. In the presence of these signs neither close observation nor any great skill is required to diagnose the advanced stage of congestive failure.

CONCLUSIONS

1. If we can prevent rheumatic fever we can reduce appreciably our incidence of heart disease of infective etiology.

2. Considerable care must be exercised that infectious onset of rheumatic fever does not go unrecognized.

3. Extreme patience and care must be exercised in the management of rheumatic fever patients to prevent cardiac pathology as much as possible.

4. Once a patient has had rheumatic fever, he should guard against recurrences by avoiding infection and exercising unusual precautions during infections.

5. Life may be considerably prolonged if we discover the onset of heart failure in the pre-symptom or early stages and regulate the life activities in accordance therewith.

Case Report

STREPTOCOCCIC MENINGITIS

Report of Case with Recovery

MARTIN A. BLACKSTONE, M.D., Sioux City

Recovery from streptococcic meningitis is unusual, and I am here reporting such a case. A review of the subject reveals about seventy reported cases with successful termination, and the mortality rate is estimated at 97 per cent. The literature on these reported cases reveals a multiplicity of ideas as to the methods of treatment. These include spinal taps, serums, drugs, and chemicals, in addition to various operative procedures. I do not believe it would be of value to enumerate these in detail, especially since it is impossible to evaluate their individual status because of the infrequent recovery. It must be remembered that the virulence of the organism varies as does the resistance of the host, and spontaneous recoveries do occur. The case which I am reporting followed an attack of otitis media. The use of chemotherapy in streptococcic infections has recently been stimulated by the introduction of sulphanilamide (prontosil). The drug was used in the treatment of this patient.

CASE REPORT

History: The patient was admitted on January 25 with the following complaints: headache, diplopia, photophobia, irritability, stiff neck, and purulent discharge from the left ear.

Past history: The child had always enjoyed good health.

Present illness: On January 15 the patient had complained of headache, fever, listlessness, and generalized aching. The parents thought the child had "the grippe", since the rest of the family had been ill during the preceding week with similar complaints. Pain developed in the left ear on January 18, with a slight fever, but no headache.

The pain in the ear increased in severity and on January 19 the drum ruptured spontaneously. This was followed by immediate relief of pain and a bloody discharge for a few hours. For the next three days, the patient had no specific complaints, except a very profuse, thick, purulent discharge from the ear. On January 22, he complained of frontal headache, and the mother noticed that he held his neck erect. By the next day the headache was increasing in severity, and the neck rigidity had become very definite. At no time during the illness was there vomiting, diarrhea, or rash. On January 24 the child appeared more ill. Because of weather conditions, the parents had been unable to reach a physician.

Examination: Physical examination on January 25 revealed a white male, eleven years of age, who was well developed and nourished. He appeared to be acutely ill with a temperature of 103 degrees, pulse 100, and respiration 24. There was a definite opisthotonos. He complained chiefly of headache in the frontal region, and was irritable to any external activity. He responded to questions in a satisfactory manner. The head was of a normal shape and size, and there was no evidence of injury. The eye examination showed round, regular, equal pupils, which reacted well to light and accommodation. There was a slight edema of the retinal vessels of the left eye. There was also a complete sixth nerve paralysis of the left eye, but no other cranial nerve involvement. No tenderness was present over the face. A profuse, seropurulent, odorless discharge was issuing from the left ear through a free opening in the anterior superior portion of the drum. There was neither edema nor tenderness over the mastoid or zygomatic area, and no definite tenderness over the maxillary or frontal sinuses. There was a moderate degree of congestion in the nose, with a small amount of mucopurulent discharge. The pharynx and tonsillar regions appeared normal, and the teeth were in good condition. It was impossible to flex or rotate the neck because of nuchal rigidity. There was a slight grade of cervical adenopathy, and the anterior chain on the left was somewhat tender. An examination of the chest revealed normal contour and movements, and no gross abnormalities to percussion or auscultation. The heart was normal as to size, shape and position; tones were satisfactory; tachycardia was present. There were no hernia swelling, masses or other signs of pathology in the abdomen. Kernig's and Brudzinski's signs were positive; Babinski's sign was negative. Knee jerks and the tendo achillis were depressed. No clonus was present.

Course of the disease: January 25. Hemoglobin, 74 per cent; red blood count, 3,810,000; white blood count, 33,500. Differential count was polymorphonuclear, 73 per cent; transitionals, 12 per cent; small lymphocytes, ten per cent; large lymphocytes, one per cent; and monocytes, one per cent. Spinal fluid under increased pressure, slightly turbid, 1260 cells polymorphonuclear predominating. No sugar and no organisms reported. X-rays of the mastoids and of the petrous portion of the temporal bones did not reveal any definite pathology.

January 26. General condition not improved. Entrance complaints exaggerated. Spinal tap, withdrawal of twenty cubic centimeters of fluid in forenoon with a cell count of 5,550. A few gram-positive diplococci were found on direct smear. In an effort to determine more definitely the causative organism cisternal puncture was resorted to in the afternoon with withdrawal of fifteen cubic centimeters of fluid which revealed a cell count of 3,400; centrifuged specimen again revealed a few gram-positive diplococci. Cultures of both specimens taken on this day were made on dextrose broth, blood agar, and in the spinal fluid. They all grew short chain gram-positive streptococci. Culture of the left ear showed a streptococcus of similar type to that in the spinal fluid. The urine examination was normal.

January 27. Condition remained the same, with the temperature varying from 102 to 104 degrees, taken rectally. Spinal puncture showed a cloudy fluid with a cell count of 4,025.

January 28. Fluid again under increased pressure. Streptococcic organism found in cultured specimen.

January 29. General condition remained the same, with cell count of 3,475. Prontosil was first used, five cubic centimeters being given intramuscularly every six hours.

January 30. Spinal fluid showed a cell count of 3,400, and cultured streptococci. Blood culture revealed gram-positive diplococci. No chain formation was noted. A repeated culture was negative.

February 1. Cell count was 1,025; no sugar. The paralysis of the sixth nerve of the left eye was clearing.

February 2. General condition improving; neck rigidity was lessened, and the patient seemed alert. Blood count was as follows: red blood count, 3,730,000; white blood count, 16,650; polymorphonuclear, 58 per cent; transitionals, 21 per cent; and small lymphocytes, 12 per cent.

February 4. Spinal fluid was not under pressure; it was clear. Cell count of 65, sodium

chloride, 363 milligrams per one hundred cubic centimeters; sugar normal. The Wassermann reaction was four plus, and the Kahn reaction two plus. Two hundred cubic centimeters of citrated blood was transfused from the father. The urine had shown a fixed specific gravity of 1.004 on twenty-four hour specimens on several occasions, with a trace of albumin, but no casts.

February 5. General condition definitely improved; headache had disappeared; paralysis of the sixth nerve had also disappeared.

February 7. General condition satisfactory; temperature approaching normal; still a small amount of discharge from the left ear.

February 11. General condition good; spinal fluid clear; cell count of eight; no globulin; sugar normal.

February 13. Left ear continued to drain a moderate amount of seropurulent material. No evidence of mastoid infection clinically. Hemoglobin, 80 per cent; red blood count, 4,180,000. The amount of prontosil administered had been reduced to ten cubic centimeters daily on February 12 and 13.

February 15. General condition good; intermittent fever to 101 degrees, taken rectally, as the high point. The specific gravity of urine had increased.

February 17. The ear was draining a profuse, sticky, greenish-white material without odor. There was no mastoid pain or tenderness. Wassermann and Kahn tests were negative. Infra-red lamp was used on the ear twice daily.

February 21. General condition good, but there was still a slight amount of discharge from the left ear; temperature normal. Patient was dismissed from the hospital.

March 15. Follow up examination revealed no complaints. Ear had been dry for two weeks; drum appeared normal. Patient had regained his normal weight of 86 pounds.

CONCLUSIONS

1. I have here reported a case of proved streptococcic meningitis of otitic origin. The organism was cultured from the spinal fluid on several occasions.

2. I believe that each case must be individualized as to treatment. Supportive measures, such as fluid intake, provision of adequate nourishment, blood transfusions, et cetera, are important.

3. It is impossible to draw accurate conclusions as to the value of prontosil from one case. Further experience with its use in such instances will establish its therapeutic value.

3925 Floyd Avenue.

THE FINLEY HOSPITAL CLINICO-
PATHOLOGIC CONFERENCES

RUPTURED TUBAL PREGNANCY

D. F. WARD, M.D., Dubuque

The great majority of tubal pregnancies terminate by rupture with massive peritoneal hemorrhage. While theoretically it is possible to make a diagnosis earlier, actually it is rarely done because of the lack of symptoms. It is the rupture with the hemorrhage, a major acute surgical condition, which causes the patient to consult her doctor. At that time it is imperative that a diagnosis be made and proper treatment instituted as quickly as possible; otherwise the patient's life may be needlessly sacrificed. In our series of eighteen cases there was one death, apparently from hemorrhagic shock caused by the patient's delay in seeking medical aid. As statistics indicate an increasing incidence in extra-uterine pregnancy, every physician should be alert to the possibility of its occurrence in women of the childbearing age. The following case is quite typical of the usual ones encountered in general practice.

CASE REPORT

Chief complaint: The patient, a white woman twenty-four years of age, was admitted to The Finley Hospital, March 2, 1937, because of "pain in the lower abdomen, vomiting and collapse."

Family history: Her husband was living and well. She had one child of three years and another of eight months. There had been no miscarriages.

Past history: The patient had always been healthy.

Present illness: The patient had missed a menstrual period two weeks before admission but had noticed no other signs indicating that she was pregnant. About 2:00 P. M. she was seized with a sharp pain in the lower abdomen, and began to vomit. She thought this was due to something she had eaten. She was first seen at her home two hours later and an examination revealed slight tenderness over the entire abdomen. She was ordered to remain at absolute rest and a hypodermic of morphine was given. Two hours later she was again seen because of vaginal bleeding and on examination the pain was more sharply localized in the lower abdomen. There was also a suggestion of a fluid wave. The patient was sent to the hospital.

Physical examination: She was in severe shock and was ashen-gray in color. She appeared anxious, was restless, and suffered from air-

hunger and thirst. The pulse was weak and thready, with a rate of 130 per minute. The temperature was 102 degrees. The blood pressure was 94/60. The abdomen was tender especially over the lower quadrants where it had a doughy feeling. On vaginal examination a little blood was seen coming from the cervix which seemed somewhat softened and was tender on lateral movement. A boggy mass could be felt in the cul-de-sac to the left of the uterus which did not seem enlarged. A blood examination showed: hemoglobin, 58 per cent; white blood count, 17,200 with 87 per cent polymorphonuclear leukocytes.

Preoperative diagnosis: Ruptured left tubal pregnancy with peritoneal hemorrhage.

Operative notes: On opening the peritoneum a large amount (1200 to 1500 cubic centimeters) of fluid and clotted blood was found and the clots were removed. The left tube was swollen, dark red and ruptured in the mid-portion. The tube was removed, and the abdomen was closed without drainage. A transfusion of 500 cubic centimeters of whole blood was given by the Unger method. The patient left the operating table in a definitely improved condition.

Anatomic diagnosis: Left tubal pregnancy; rupture with massive peritoneal hemorrhage.

Subsequent course: The patient made an uneventful recovery and left the hospital on the twelfth day.

DISCUSSION

History: According to Lang¹ the first recorded case of tubal gestation is that of Riolan, who in 1604 followed a typical case with death from hemorrhage. He carefully described the specimen of a right tubal pregnancy found at the postmortem examination. In 1876, Parry collected 500 cases of extra-uterine pregnancy of all ages, among whom 366 died and 163 recovered (mortality rate of 67.7 per cent). Lang states that the honor of performing the first abdominal section for tubal pregnancy goes to Lawson Tait in 1883. The first American operation was by Charles Briddon later in the same year.

Incidence: The reported statistics indicate that the ratio of extra-uterine to uterine pregnancies is approximately one to 100. Thus, Wynne² in Baltimore reports an incidence of 1.3 per cent; Schumann³ in Philadelphia, 0.3 per cent; Farrar⁴ in New York, 1.5 per cent and Sivertsen⁵ in studies in St. Paul and Minneapolis, 0.7 per cent. All authorities agree that the vast majority of extra-uterine pregnancies occur in the fallopian tube and that the ovarian and abdominal types are extremely rare. Indeed the weight of evidence

indicates that the latter is always secondary to either a primary tubal or ovarian pregnancy.

Etiology: Williams⁶ divides the cause of tubal pregnancy into two main groups, namely, factors acting mechanically, and factors resulting from inflammatory conditions. Under the first heading he lists the following conditions:

1. Peritoneal adhesions, which may compress the lumen or interfere with the peristalsis of the tube.

2. Polyp projecting into the lumen.

3. Myomata or other tumors in the wall of the tube or in adjacent organs which may compress the tubal lumen.

4. Fetal convolutions which persist into adult life and interfere with peristalsis.

5. Diverticula of the lumen of the tube.

6. Presence of accessory ostia.

7. Puerperal atrophy of the tube.

8. External migration of the ovum to the opposite side when its size prevents it from passing through the lumen.

Under inflammatory conditions are listed the following:

1. History of gonorrhea with salpingitis may be elicited.

2. History of postpartum or postabortal infection.

3. History of pelvic operation of some type.

4. Relative sterility: "Thirty per cent of women ectopically pregnant have one child sterility."³

Pathology: The fertilized ovum becomes implanted in the mucosa of the tube and as a true decidua does not form, the ovum quickly invades the muscular wall where large blood vessels are very likely to be eroded. Because of the lack of the protecting decidua, though there are islands of decidual cells present, erosion of the blood vessels occurs early. This results in hemorrhage overfilling the intervillous spaces and it extends into the capsule of the ovum. Internal rupture with bleeding into the tube follows, often misnamed "tubal abortion." The uterus undergoes characteristic changes while the fetus is alive. It increases in size but not to that of an intra-uterine pregnancy of the same duration. A true decidua is formed in the uterus but after the death of the ovum it degenerates and is passed in pieces or as a decidual cast. A tubal pregnancy may go to term but usually terminates as indicated above. More rarely the fetus may be extruded into the peritoneal cavity where it generally dies. Very rarely the placenta becomes attached to neighboring viscera and the fetus may live until term (abdominal pregnancy).

Symptoms: The patient of childbearing age, and in 60 per cent of the cases between twenty-five

and thirty-five years of age, consults her doctor because of a delayed menstrual period, followed by vaginal bleeding, generally of a spotty nature, and lower abdominal pain. The latter is usually unilateral. She may or may not have the presumptive signs of pregnancy such as nausea and vomiting or prickling sensations in the breast. On questioning, the patient may tell of the passage of a decidual cast, or may give a history of one child sterility, an old pelvic infection, or a previous pelvic operation. Some patients complain of shoulder strap pain or pain along the costal border. Dizziness or a fainting attack frequently is associated with rupture. Nausea and vomiting are also common. On examination the abdomen is tender and often rigid over one of the lower quadrants. Bimanual examination may reveal blood coming from the vagina and usually it is brownish in color and scant in amount. The cervix may be bluish and is very tender especially on lateral movement. The uterus is slightly enlarged and boggy. A tender mass may be felt in the cul-de-sac. The general examination shows a temperature of 99 or 100 degrees or up to 104 degrees if rupture has occurred. If there has been considerable hemorrhage all the signs of hemorrhagic shock will be present, i. e., fast, thready pulse, low blood pressure, ashen pallor, air-hunger, and prostration.

Diagnosis: The diagnosis at times offers considerable difficulty, but a careful history and physical examination bearing in mind the possibility of tubal pregnancy is usually sufficient. In cases of doubt the Aschheim-Zondek test or one of its modifications can be done and read within twenty-four hours. However, if rupture has occurred and the hemorrhage is extensive, treatment must be quickly instituted. The leukocyte count is generally moderately elevated but may reach 20,000 with 90 per cent neutrophils if there is considerable blood in the peritoneal cavity.

Treatment: The treatment is surgical. As a general rule it is desirable to do only what is necessary while in the abdomen, and depending upon the condition of the patient, to do this as quickly as possible. Usually this means only the removal of the affected tube. The ovary on the affected side should be isolated and preserved. The opposite tube should be removed only when evidently pathologic. Several different blood procedures may be carried out. Some surgeons remove all the blood possible, others only the clots, and still others leave all the blood in the cavity. A few remove the clots and leave the defibrinated portion to be absorbed unless there is a suspicion of infection. Blood transfusion should be done in conjunction with the major operation. The

prognosis is good if the diagnosis is made early and operation is done by a skillful surgeon as quickly as possible. In our series of eighteen cases there was one death (mortality rate of 5.5 per cent).

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CLINICAL NOTES FROM THE

COLLEGE OF MEDICINE

STUDIES ON BLOOD GROUPING

ELOISE M. LARSON, M.D.

Iowa City

Department of Hygiene, Preventive Medicine and Bacteriology

The first step in preparing for a blood transfusion is the selection of a donor whose blood will not produce harmful effects when introduced into the circulation of the patient. That such harmful effects do occur is evident from the increasing number of case reports of transfusion reactions. The accepted evidences of incompatibility are clumping, or dissolution of the red blood cells of one individual when suspended in the serum of another. It is likewise on the occurrence of one or both of these phenomena in the vessels of the recipient that the explanation of transfusion reactions is based.

The fundamental studies on the clumping of red blood cells within the human species were made by Landsteiner¹ in 1900. He compared and cross-matched the cells and sera of twenty-two individuals and pointed out that these could be divided into three distinct groups. The fourth and rarest group was discovered two years later². The agglutination phenomenon forms the basis for the division of all human beings into four blood groups which are determined by heredity and do not change during life. The existence of the four groups as shown by Landsteiner³ depends upon the presence or absence of two agglutinogens, A and B in the red blood cells and two corresponding agglutinins, anti A and anti B in the serum. Cell agglutination constitutes a specific reaction between these substances. It is essentially an antigen-antibody reaction, the antigens being in the cells and the antibodies in the serum. It is com-

parable with the agglutination reactions used in the diagnosis of typhoid or Malta fever. The designation of the four blood groups by number was first made by Jansky⁴ in Europe in 1907 using the Roman numerals I to IV. In 1910 Moss⁵ independently in this country likewise referred to the groups by Roman numerals but unfortunately reversed groups I and IV of Jansky. Consequently two discordant classifications came into use. This has led to much confusion and has perhaps been responsible for the use of incompatible blood in transfusions. Because of the fundamental nature of the phenomena and to eliminate confusion the use of the International or Landsteiner classification was recommended by the Committee on Blood Grouping of the National Research Council. It has been officially recognized by the Health Committee of the League of Nations and has been adopted

TABLE I

Landsteiner.....	AB	A	B	O
Moss.....	I	II	III	IV
Jansky.....	IV	II	III	I

by several national associations, among them the American Association of Immunologists. Table I gives the three classifications. In the Landsteiner classification the groups are designated according to the antigen content of the cells: Group AB whose cells contain both agglutinogens, group A which has only the A factor, group B which has only the B factor, and group O which has neither. Group O corresponds to what has been called the "universal donor," because the cells having no agglutinin are not agglutinated by any serum.

TABLE II*

Serum of Group	Agglutinins in Serum a and b	O	A	B	AB
O	a and b	—	+	+	+
A	b	—	—	+	+
B	a	—	+	—	+
AB	o	—	—	—	—

Note: The agglutinins in the serum are represented by small a and b. The + signs indicate agglutination.

*From Wiener.⁶

Table II⁶ shows the interactions when the red blood cells of each of the four groups are added to the various sera. Obviously if the individual has the A or B factor in his cells he cannot have the corresponding agglutinin in his serum or he would clump his own cells. Thus individuals of the AB group have no agglutinins in their serum and for this reason have been referred to as "universal recipients."

For the purpose of selecting a donor for transfusion at the University Hospitals both donor and recipient are typed to be sure they belong to the same group and then are cross-matched with each other as an additional check. That is, the cells of

each are suspended in the serum of the other in order to be sure of compatibility. Because of the haste frequently necessary in supplying blood to a patient the technic employed in this typing and cross-matching must be accurate and rapid, and as simple and practical to apply as possible. A variety of methods have been recommended and each has its advocates. The method which we have adopted as routine is a macroscopic, open slide method, described by Vincent in 1918⁷. It requires only normal saline, small test tubes, microscopic slides, dropping pipettes and reliable standard A and B test sera. A drop of blood from a needle puncture is collected in saline, a very light suspension being preferable. One drop of group A serum is placed on the left end of the slide, a drop of group B serum on the right hand end. To each is added a drop of the cell suspension and the serum and cells are mixed by constantly tapping and tilting the

nance of a single group. Thus the North American Indians show 91 per cent in the O group, eight per cent in group A, two per cent in group B, and none in group AB.⁹

In order to compare the reliability and the ease of application of the Vincent technic with others commonly in use, a series of two hundred bloods was grouped by this and two other methods. One of these was the more commonly used slide method described by Moss⁸ in which the cells are suspended in the serum over a hollow ground slide and examined microscopically after thirty minutes. The other consisted of mixing the cells and serum in Wassermann tubes, centrifuging at high speed for three minutes and then examining after resuspending the sediment by agitation. Negative tests in this method result in an even clouding of the fluid, whereas the positive agglutination is manifested by large clumps of cells floating in the suspension. The same proportion of cells and serum was used in each of the three methods and all procedures were carried out at room temperature. No variation among the methods was found in 183 instances. There were deviations from the grouping as ascertained by the Vincent method in seventeen instances as follows: In ten cases the microscopic study of the hanging drop was interpreted as a negative reaction, whereas other methods showed agglutination. Likewise three instances occurred in which the centrifuged specimen was not interpreted as agglutination but the other methods did show clumping of the cells. Hemolysis was noted in four centrifuged specimens. In this series there were no occasions on which the microscopic or centrifuge methods showed agglutination which failed to show up in the Vincent method.

Hemolysis, which is another evidence of incompatibility of two bloods, is generally considered to run parallel with the agglutination phenomenon but does not occur with the same frequency as agglutination. It is exhibited chiefly in cross-matched blood since it requires the presence of complement found only in fresh serum. Hemolysis is manifested by the diffusion of hemoglobin from the ruptured cells into the fluid to give it a red color. The presence of such pigment would be difficult to ascertain in very shallow drops of fluid, so if the centrifuge method has any merit it rests in the depth of the fluid present to make the detection of hemolysis easier. However, it must also be recognized that the mechanical injury to cells caused by centrifugation may also result in hemolysis and thus give false positive reactions. It is our opinion that this is the explanation of what did occur in the foregoing experiment, as agglutination was definite and permanent in the other methods. The absence of agglutination in the hanging drop

TABLE III

Percentage Distribution of the Blood Groups				
Landsteiner	Moss	Snyder (20,000 tests)	Moss (1,600 tests)	S. U. I. Hosp. (1,100 tests)
Group O	IV	45.0	43.0	43.36
Group A	II	41.0	40.0	42.91
Group B	III	10.0	7.0	10.28
Group AB	I	4.0	10.0	3.45

slide. No cover slips are used. Ordinarily ten minutes is adequate to complete the typing but when typing children it is advisable to wait twenty minutes for the final reading. When agglutination occurs in this method it may be observed directly without the use of a microscope. The reactions are best observed over diffused light or over a contrasting light and dark background. Positive reactions show up as masses of cells ranging from brick red to bright red in color. In negative reactions the cells remain evenly dispersed in the fluid. The presence of rouleaux formation (cohesion of the red cells in long rows like piles of coins) may occasionally produce what appears to be agglutination. This can be ruled out by microscopic study of the preparation and can be eliminated by diluting the suspension. One of four reactions may occur and determines the group to which the individual belongs. His cells may be clumped by both test sera in which case he belongs in group AB, if clumped by A only he is a B, if by B he is an A and if neither he is an O. These four groups do not occur with equal frequency in the general population. Analysis of large series of individuals in the United States shows groups O and A to occur with about equal frequency whereas groups B and AB are less common. (See Table III). There is a recognized difference in the incidence of the groups in various races as might be expected in any hereditary characteristic. Some pure race stocks show a predomi-

method is no doubt due in large measure to lack of mixing and agitation of the suspensions.

Probably the most common causes of errors are insufficient mixing of cells and sera, failure to wait long enough for agglutination to take place, and the use of unreliable sera. Test sera must be standardized sera of high titer, which is not too old and which has been kept in the ice box and free from bacterial contamination. In grouping bloods it must be borne in mind also that the cells of different individuals vary in agglutination time even among those of the same age and group. The cells of group AB individuals will usually agglutinate in type B test sera sooner than in type A. Cells of group O are not agglutinated by any serum and, since the donor's cells are of the most importance in blood transfusion and the amount of serum given is small as compared with the volume of the patient's serum, it has been thought that the agglutinins in type O serum would be sufficiently diluted to cause no harm. Individuals of group O have consequently been called universal donors and they have been recommended and used as donors for all groups. Reactions occurring from the transfusion of blood from group O individuals have been reported by numerous workers and it has been shown that donors of this group frequently possess agglutinins of such titer as to be dangerous for recipients of other groups even where small transfusions are given. Unless the titer of agglutinins of these donors can be ascertained prior to transfusion they should not be used for recipients of other groups.

Every possible precaution should be taken to insure compatibility of transfused blood. Merely procuring a donor of the same group as the patient without cross-matching the two is not giving sufficient protection against being transfused with incompatible blood. In general four blood groups exist but the fact that complexities exist within these groups is becoming more and more evident. Groups AB and A are known to have subgroups and possibly the other groups do also. Failures to obtain compatible cross-matches have been encountered in all the groups.

Agglutination reactions in general proceed in two stages; the combination between antigen and antibody; then the clumping of the cells. The speed of agglutination and the size of the clumped particles will depend upon the speed and force at which the cells come together. Whatever method is used in grouping and cross-matching it should include rapid and sufficient mixing of serum and cells.

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HOMEcoming AT NORTHWESTERN HOSPITAL IN MINNEAPOLIS

The staff of the Northwestern Hospital, which was founded in Minneapolis, Minnesota, in 1882, is desirous of getting in touch with all former internes. A homecoming and reunion is being arranged, to be held on Saturday, June 19. Beginning at 8:00 A. M. a varied program of operative and dry clinics, scientific demonstrations, et cetera, will be given by the staff until 1:00 P. M., when luncheon will be served at the hospital. Following this will be a boat ride on the Mississippi. The "Donna May" has been chartered and will leave the dock at 3:00 P. M. Entertainment will be provided and refreshments served, with dinner on the boat later. It is hoped that at least two hundred will attend and an enjoyable occasion is promised. Dr. Arthur E. Benjamin and Dr. William A. Hanson are in charge and will be very glad to hear from any who have served as internes in the hospital, so that they may be sent invitations and all information. A card or note addressed to either of these committee members, in care of the hospital, will receive prompt attention.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the JOURNAL office.

Fifth International Congress of Radiology—September 13 to 17, Chicago.

American Congress of Physical Therapy, Sixteenth Annual Clinical and Scientific Session, September 20 to 24, Netherland Plaza Hotel, Cincinnati, Ohio.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

American Board of Ophthalmology will conduct examination in Chicago, October 9. All applications and case reports, in duplicate, must be filed at least sixty days before the date of examination.

Military Surgeons Convention—October 14 to 16, Los Angeles, California.

Omaha Mid-West Clinical Society, Fifth Annual Assembly, October 17 to 22, Hotel Paxton, Omaha, Nebraska.

New York Academy of Medicine, 1937, Annual Graduate Fortnight—November 1 to 12, New York.

American Association of Orthopedic Surgeons, Annual Meeting—January 15 to 19, 1938, Los Angeles, California.

STATE DEPARTMENT OF HEALTH

John L. Diering

SYMPOSIA PRESENTED AT PUBLIC HEALTH MEETING

A symposium on convalescent serum and a symposium on syphilis and gonorrhea featured the Eleventh Annual Meeting of the Iowa Public Health Association, held in Des Moines on May 20, 1937. The program of this meeting was announced in the May issue of the JOURNAL, page 213. The subject of convalescent serum will be discussed in a short article prepared for the July number of the JOURNAL. The following excerpts from the discussion by Dr. Plass of the subject "Syphilis in Relation to Pregnancy," are of special interest to the attending physician:

"Syphilis in women is a slightly different disease than it is in men in that the primary and secondary manifestations of the disease are considerably milder, so that it is extremely uncommon to find a typical primary sore in a woman. As a matter of fact, I have never seen a typical primary genital lesion in a female. It is also well recognized that the secondary manifestations of syphilis in women are commonly milder than they are in men. During pregnancy, the manifestations of syphilis are still less marked than they are in women generally, all of which emphasizes the fact that it is almost impossible to obtain from a syphilitic woman a definite history of the infection. In men, one usually can obtain a positive history; usually there are tell-tale physical evidences of the infection. In women that is not usually true, so that we are forced to depend for our diagnosis of syphilis in women, and particularly in pregnant women, on serologic tests. This emphasizes the reason why obstetricians and public health authorities all over the country are continuing to stress the importance of routine Wassermann, Kahn or Klein tests among pregnant women.

"The storage of arsphenamine in the placenta has its disadvantages as well as its advantages, in that the woman is more susceptible to arsphenamine dermatitis, to arsphenamine hepatitis, and finally to arsphenamine encephalitis. One should not crowd treatment on the pregnant woman. Rel-

atively small doses should be given and the interval should be of reasonable length. The effect of treatment on the child varies almost directly in proportion to the time of beginning treatment. If a syphilitic pregnant woman can have adequate treatment started early in the gestation period, the chance that she will have a normal, non-syphilitic child is approximately 95 per cent. If, however, it is necessary to delay the onset of treatment until later in the gestation period, the chance of such protection to the child becomes smaller and smaller, until in the last two or three months of pregnancy, one has relatively little chance of offering complete protection to the unborn child."

Following are excerpts from Dr. Jeans' paper on "The Management of Congenital Syphilis":

"Most of the time during infancy and in childhood, the diagnosis is relatively easy. The first two months of life . . . offer difficulty in diagnosis. About one-third of the syphilitic infants have negative Wassermann reactions at the time of birth. Consequently, negative reaction in the cord blood or in the infant itself at this time would not give us any sense of security.

"Occasionally, babies who are not syphilitic have positive reactions at the time of birth. This comes about through the mother . . . transmitting the Wassermann reaction to the baby by passive transfer, without transmitting the infection. There is evidence of syphilis in the mother and possibly in the babe, but we can't be sure about it in the babe. Cord blood Wassermans have to be interpreted. By the time the baby is two months of age, a positive reaction that has come over merely by passive transfer has become negative. The baby who is syphilitic and who at birth had a positive reaction will have a positive reaction by two months.

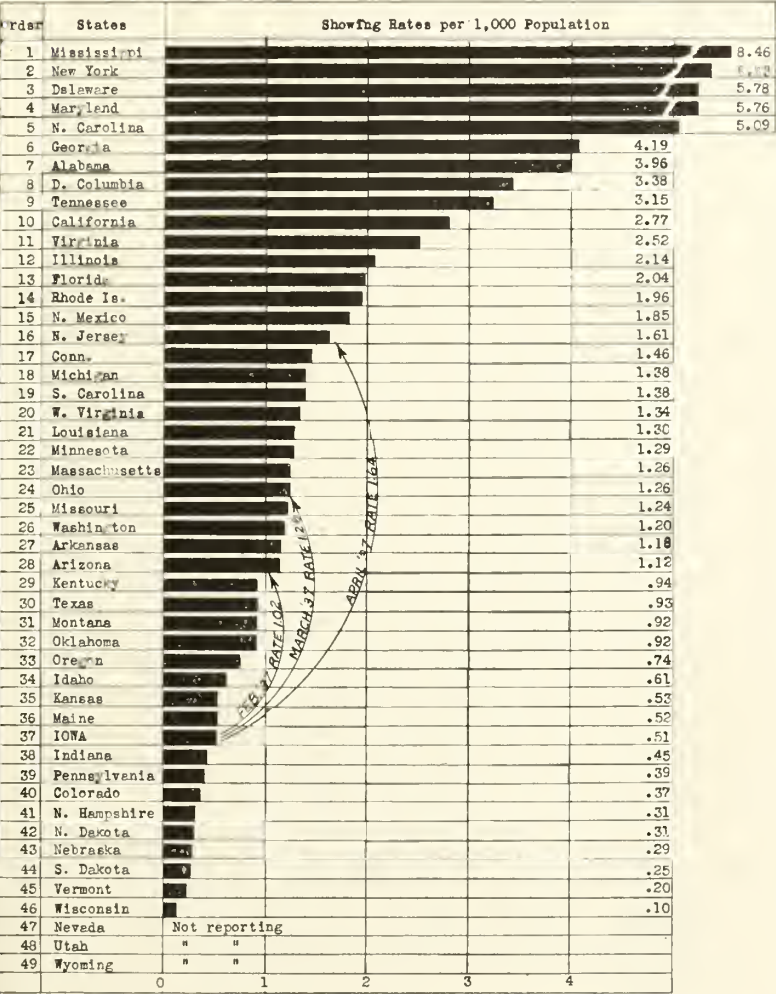
"There has grown the strong impression that congenital syphilis is much more difficult to cure than the acquired disease of the adult. With the exception of certain cases of neurosyphilis clinically manifest, I believe that one can cure all cases

of congenital syphilis if given time enough and sufficient faithfulness of patient and physician.”

Mimeographed copies are in preparation, of the papers from which the above excerpts were taken and of papers presented by all of the physicians

who took part in the recent symposium on convalescent serum and that on venereal diseases. Any physician desiring this report, may receive a copy by writing to the State Department of Health, Des Moines, Iowa.

REPORTING OF SYPHILIS
In Iowa as Compared With Other States
Based on Data Released by U. S. Public Health Service for 1936



REPORTING OF SYPHILIS IN
IOWA AND OTHER STATES

The accompanying bar graph presents information pertaining to the reporting of syphilis in the 49 states, including the District of Columbia. The diagram is based on data released by the United States Public Health Service and represents the rate of reporting of syphilis (per 1,000 population) for the year 1937. It will be noted that during the year 1936 Iowa, with a rate of .51 per 1,000, had thirty-seventh place in the list. The three arrows in the graph show the marked improvement in reporting of syphilis in Iowa for the months of February, March and April, 1937. (This information was presented in different form in the May issue of the JOURNAL, page 214.)

A table released by the United States Public Health Service and presenting figures for the month of March, 1937, shows a similar increase in the rate of reporting of venereal disease cases in many of the states.

The Iowa State Department of Health enlists continued interest and support of the physicians of this state in order that the reporting of cases of syphilis and gonorrhea may be more complete.

PREVALENCE OF DISEASE

	April 1937	March 1937	April 1936	Most Cases Reported From
Diphtheria	21	15	18	Des Moines, Polk, Sac
Scarlet Fever	1123	1585	1000	Polk, Woodbury
Typhoid Fever	7	3	1	Black Hawk, Tama
Smallpox	220	150	169	Wapello, Webster, Wright
Measles	42	12	18	(For State)
Whooping Cough	128	211	58	Black Hawk, Dallas
Cerebrospinal Meningitis	1	4	10	Winneshieki
Chickenpox	154	285	233	(For State)
Mumps	114	154	637	Woodbury, Webster
Influenza	59	45	38	Marion
Poliomyelitis	1	4	0	Des Moines
Tuberculosis (Pulmonary)	41	53	42	(For State)
Undulant Fever	13	12	8	(For State)
Gonorrhea	191	197	119	(For State)
Syphilis	341	262	111	(For State)

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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THE SIOUX CITY MEETING

The JOURNAL wishes to take this opportunity to commend the Woodbury County Medical Society for its efficiency in the capacity of host to the state organization for the 1937 annual meeting, which in our opinion was outstandingly successful. Certainly no effort was spared to make the occasion pleasant and profitable to those in attendance.

Felicitations are also in order from the standpoint of registration, since the second largest registration of Iowa physicians at an annual session held elsewhere than Des Moines, was recorded. Only the meeting at Davenport in 1935 exceeded this year's total of 802 registrations, which was composed of 502 physicians from Iowa, 75 physician guests from Nebraska, South Dakota, and Minnesota, 150 from the Woman's Auxiliary, and 75 exhibitors.

Space does not permit a review of all the various functions and activities which combined to make the Sioux City meeting so pronounced a success. However, a few may be singled out for special mention. One unique feature of this year's meeting was a new type of program presented before the county society secretaries at their annual luncheon. The possibilities of such a conference for exchange of ideas and learning what the "other fellow is doing" are obvious. We hope that this phase will be continued and developed in the future so that it becomes one of the important means of strengthening and improving medical organizations throughout the state. As has been said before, the county society is the fundamental unit of American medicine. The future course of medicine is moulded and forged by our county medical societies. May each county society be aware of its responsibility, and may its actions

ever react to the benefit of the profession of medicine!

Another special meeting deserving of commendation was that on cancer, held on Wednesday evening, to which the public was invited. The response on the part of the latter was gratifying and reflects the interest the average layman has in matters which concern his health. Further evidence of such interest was shown by the fact that the principals of two high schools in Sioux City asked permission for their pupils to view the scientific exhibits. Certainly continued efforts should be expended to satisfy this manifest desire.

Although the proceedings of the House of Delegates will be published in greater detail in the July issue of the JOURNAL, we wish to mention several of the major actions here. We wish first to offer our congratulations to the Society and to Dr. Arthur W. Erskine of Cedar Rapids upon his selection for the office of president-elect. His outstanding achievements in the field of medicine together with his many personal qualities and charm assure the Society of a continuation of the successful administration of the past. He comes to office at a crucial time in medical affairs, and we have confidence that under his leadership our course will be straight and true.

The action of the House leading to the establishment of a committee or group who shall have authority to act for the Society as a whole in the interim between the annual sessions, we believe to be of the utmost importance and desirability. This group will be composed of certain officers and chairmen of committees. As was suggested in a previous editorial, medical practice has ceased to be a matter of individual perfection and accomplishment. Organized medicine must accept its responsibility in public health problems, of which there are a continuously increasing number. Policies must be decided upon after thorough study, and planning must be cooperative with other agencies who are likewise engaged in raising the general health level. The creation of such a committee as the above provides a method for a more expeditious approach to such problems as these.

Other actions of the House of Delegates which will be generally approved by the membership at large were those dealing with clinics and with the medical relief fee schedule in Iowa. The resolution that proposed clinics should first receive the approval of the society in the county in which they are to be held was unanimously accepted, as was the resolution that the Society refuse to cooperate further in the medical relief set-up until the fee schedule was properly adjusted.

The scientific program was sufficiently varied to permit the presentation of a number of subjects

which should be helpful to the practitioners as they return to their desks. We were particularly fortunate this year in the selection of our guest speakers. Each of them deserves the thanks of the Society, for their presentations which were excellent, and for the effort they expended in traveling so many miles to appear before us. The JOURNAL believes it may not be presumptuous nor out of place to raise the question as to the type of program which would be of the greatest value to the greatest number of physicians at these annual meetings. The Wednesday and Thursday afternoon sessions, divided as they are into medical and surgical sections, contain excellent papers in both groups, which frequently come at identical hours. For this reason a choice is forced on many who would prefer to hear each of the programs. Since the bulk of the membership of the Society is composed of men engaged in general practice and presumably, therefore, interested in all phases of medical practice, it would seem that a different arrangement might be advisable. We believe your president, Dr. E. M. Myers, and the program chairmen for the ensuing year will heartily welcome comments from individuals or from county societies on this point.

We would also suggest that a change be made for the Friday morning session. In many ways, this is the high point of the meeting; yet outstanding guest speakers are asked to address the mere handful of physicians who usually attend this session. The opportunity to hear men of the caliber of Charles Gordon Heyd and Dean Lewis comes only too infrequently to those of us who practice our chosen profession so far away from the larger educational centers.

We sincerely hope that plans can be formulated to overcome this situation, and that the final meeting of the House of Delegates can be held at a time which will not conflict with these important addresses. It is not our wish to disrupt an established custom. Rather we are acting in the capacity as spokesman for the many members of the Society who have expressed opinions essentially similar to our discussion. We believe these points merit the attention of our new officers and section chairmen as they undertake the task of formulating the program for 1938.

A NEW THERAPEUTIC AGENT

The careful clinician views with justifiable skepticism any new therapeutic measure. Until the true merit of a new drug is firmly established, its toxic properties fully understood, and the indications and contraindications clearly set forth, the clinical use of the drug in the treatment of disease

must still be considered as being in the experimental stage.

A recent addition to chemotherapy is the much talked of "prontosil," a substance resulting from the linkage of an azo dye with sulfanamide, which Domagk in 1935 reported would protect mice from virulent strains of streptococci. The basic chemical is para-amino-benzene-sulfanamide, sold under the name of "prontolyn" as five grain tablets for oral administration. Prontosil is the sodium salt of 4'-sulfamido-2, 4 diamino-azo-benzene, and is marketed in ampules in 2.5 per cent solution for intramuscular injection. In animals infected with hemolytic streptococci, prontosil is broken down by a splitting of the amino groups into para-amino-benzene-sulfanamide. In vitro, experiments with prontosil have demonstrated no effect on cultures of streptococci. However, the reduced prontosil, or para-amino-benzene-sulfanamide, has been shown to be bacteriostatic and in some measure bactericidal to certain strains of hemolytic streptococci. In vivo, experiments in mice have demonstrated that prontosil decreases the mortality rate and definitely prolongs the life of animals infected with virulent strains of hemolytic streptococci.

Numerous contributions to the literature, particularly on the continent, have reported upon the clinical use of the drug in streptococcic infections in the human organism. Particularly favorable are the reports in the treatment of erysipelas, septic abortion, septic sore throat and streptococcus septicemia. Encouraging results are reported in meningococcic and gonococcic infections. The dosage depends upon the age and weight of the patient and the severity of the infection. It may be administered orally or intramuscularly, and in severe infections both methods of administration may be employed.

Para-amino-benzene-sulfanamide does not alter human physiology. It is relatively non-toxic in the usual dosage. The urine becomes mahogany colored fifteen minutes after subcutaneous injection and thirty minutes after oral administration. When given hypodermically, headache, vomiting and fever may occur. Jaundice sometimes results but ceases on withdrawal of the drug. When given in conjunction with saline laxatives, sulphemoglobinemia with resulting cyanosis may occur. The presence of the benzene ring in the chemical may cause a depression in the white blood count and a severe leukopenia may result.

Judging from the experimental and clinical evidence it is apparent that the careful use of para-amino-benzene-sulfanamide is justified in certain types of infection in the human organism. However, the promiscuous and careless use of the drug is certain to prove disappointing as well as danger-

ous. Only careful clinical study will determine the true value of para-amino-benzene-sulfanamide. The skepticism with which such a meritorious product as salvarsan was received should prompt a sympathetic and unbiased analysis of a chemical agent for use in other types of bacterial infection.

POSTGRADUATE EDUCATION IN MICHIGAN*

HERMAN H. RIECKER, M.D.,
Ann Arbor, Michigan

A revival of postgraduate medical teaching in Michigan began in 1928, when, at the request of the Michigan State Medical Society, the Board of Regents established a Department of Postgraduate Medicine at the University of Michigan. The work of organization was undertaken by Dr. James D. Bruce upon the assurance of hearty cooperation of the Wayne University Medical School faculty in Detroit, the Michigan State Medical Society, and the hospitals of the state. The entire program has been based upon a continuing, cooperative spirit between the medical schools, the hospitals, and the profession. An advisory committee on postgraduate education, representative of the groups included, meets several times a year with the Director of the Department, Dr. Bruce.

After a period of experimentation in postgraduate teaching similar to that of many other schools, a plan was evolved which seems at present to meet the needs of postgraduate instruction in the state. It is by no means a permanent plan and at any time will be modified to meet new opportunities or conditions. The activities of the Department may be divided into four phases, the first of which is the extramural, annual course for the general practitioner in which eight instruction periods of four hours each are given each year at seven teaching centers of the state, exclusive of Ann Arbor and Detroit. This course is attended by about 1,200 of the 2,500 practicing physicians of this area. The subject matter is arranged so that in five years the principal points of the entire field of practice are covered. The teachers are drawn from the faculties of the two medical schools of the state, augmented by prominent physicians not in undergraduate teaching. On these programs no speaker is permitted to lecture in his own immediate district. All assignments and subjects are arranged in the office of the Director of Postgraduate Medicine, and outlines of each lecture are forwarded to the speaker to ensure uniformity and continuity in presentations. The centers are arranged as nearly as possible according to the distribution of physicians, so that no more than a fifty mile drive

is necessary by any practitioner. Not more than two general subjects are taken up in one day, the objective being to cover rather completely each subject. This departure from the usual postgraduate course calls for more than usual preparation on the part of the speaker, but is necessary because the fundamentals of medicine, including especially physiology and biochemistry, have so changed in a comparatively short time that new procedures cannot be understood otherwise. A satisfactory balance between fundamental knowledge and its application to practice is as necessary in graduate as in undergraduate instruction. In each center a local committee of arrangements functions to record attendance, introduce the speakers, and provide clinical material, as necessary. All teaching is done, of course, in local hospitals.

Upon completion of the course, a short questionnaire is sent to each physician who attended, asking for subject preference for the next year and such other information as is currently desired. This is advisable not only to give a direct reaction to the program to the Committee, but also to bring the physician into more intimate contact with the general program. Each year a small volume is published and distributed to those who attend the course, containing the essential points in each subject, forming a series of elaborate notes and a review of the courses. This has been an especially valuable contribution. The State Advisory Committee on Postgraduate Education has recommended and the House of Delegates of the Michigan Medical Society has approved the awarding of certificates of attendance at the end of the five-year period to physicians who attend these courses.

The second activity of the Department is that of short, intensive review courses in Ann Arbor and Detroit for men in the special fields, and a course in general medicine for practitioners who are unable to attend those given in the extramural centers. The latter is a composite of the extramural course, given in the several centers of the state. The former includes the following subjects, designed to review each year the advances in the special fields, and is attended by men already practicing in these fields.

Electrocardiographic Diagnosis

Diseases of Metabolism

Ophthalmology

Otolaryngology

Pediatrics

Proctology

Roentgenology

Diseases of Genito-Urinary Tract

Gynecology, Obstetrics and Gynecologic Pathology

Hematology

* Editor's Note.—This is the second of a series of articles on postgraduate instruction in its various forms, the first of which appeared in the May issue of *The Journal*.

Principles of Surgery Laboratory Technic

These courses fill a definite need in the postgraduate field and the attendance is made up of physicians from many states.

The preparation of general practitioners for entrance to a specialty has long been a difficult problem. While by no means fully solved at Michigan, certificates of proficiency are issued each year to physicians who complete the required period of training in the University of Michigan Hospital. These men have just completed their rotating internship (two years) and have continued in a special field for periods varying from two to four years. Further developments in this particular field would be highly desirable, and progress is being made.

A fourth activity of the Department is that of four and eight weeks' courses in the University summer session, in which a semester's (or a half year's) work is taken by those members of the profession who wish to review the clinical or pre-clinical fields more completely. It is hoped that the greatly renewed interest in postgraduate education in medicine will be followed shortly by a decided increase in attendance on the longer intramural courses, since library, laboratory, x-ray and autopsy facilities markedly enhance the value of an eight weeks' review.

Desirable as is the stimulation of interest in longer and more intensive courses of study, all of those concerned with the field of postgraduate education in medicine realize that a compromise must be reached whereby the greatest number of practicing physicians are in contact with some plan of organized teaching, for it is quite generally believed that after ten years without such contact the physician can seldom be returned to up to date methods of practice. In addition, a wide surface of contact stimulates many men to seek deeper penetration by intervals of shorter or longer periods of intramural study. It is our intention to make each of these activities complementary to the others, not only to provide opportunity for universal continuing postgraduate study, but also for progressively more intensive study for those who may elect it. It was found advisable also to stimulate a better appreciation of good medical service on the part of the public, in an attempt to raise the standards of health in the state. For this purpose a Joint Committee on Health Education, including all health agencies in the state, is now functioning toward the development of this phase of the work. The advantages of this latter activity, in conjunction with postgraduate teaching, are far-reaching and, upon reflection, will be seen to be a part of sound strategy.

An increasing attitude of social responsibility on the part of the professions in the health field, the development of health consciousness consistent with scientific knowledge, and a renewed confidence by the public in the professions, are some of the broad, general objectives of postgraduate education. Another is the ideal of making each community as nearly as possible a self-sufficient center of medical service. It has been our experience that with an active participation in postgraduate work, either as student or teacher, there has been an improved morale of the profession in the state, and that the early pleas for improved services have been transformed by the physicians, themselves, into a demand for further instruction. Our present working principles in postgraduate education may be summarized as follows:

1. A constantly maintained cooperation between all agencies in the state having to do with the maintenance of the quality of medical care.

2. A plan whereby all practicing physicians have an opportunity, with the least possible inconvenience on their part, to receive each five years an organized course of instruction covering the field of medical practice.

3. Adherence to the policy to present the necessary fundamentals of medical science in fewer subjects with comparative thoroughness, rather than a wide variety of subjects in which fundamental principles cannot be emphasized.

4. To center postgraduate medical instruction in the undergraduate medical school where it may be directed by those intimately in touch with the advances in the fundamental sciences.

5. To provide opportunity for the continuing education of physicians in the special fields of medicine, and for those in fields allied to the profession, including dentistry, public health, nursing, and to recognized technical assistants.

It is realized, of course, that this plan and the principles underlying it may not be applicable to other situations, but for us it does provide a sound starting point from which adjustment and expansion may be safely executed.

TOXICITY OF FRUIT SPRAYS

That sprayed apples may be a source of lead or arsenic poisoning is suggested in an article by Heeren and Tunk* of the Department of Hygiene at Iowa City. These authors determined the lead content of sprayed apples from six east-central Iowa orchards, of non-sprayed apples from the same territory used for controls for natural lead content, and of imported acid-washed sprayed apples. The maximum lead amount established

* Heeren, R. H., and Tunk, Helen B.: Toxicity of fruit sprays. Pub. Health Reports, lii:8 (January 1) 1937

by federal regulation in 1935 is 0.018 grain per pound. Five lots of domestic apples showed excess lead loads ranging from 0.024 to 0.027 grain. The non-sprayed and imported acid-washed apples gave results definitely below the established maximum.

Clinical studies were carried out on thirty-seven persons and twenty-three guinea pigs, all of whom ate apples from various sources over considerable periods of time. Fourteen of the persons ate Iowa grown sprayed apples regularly from fall to late winter and early spring. Blood films were then examined for excessive basophilic changes in the erythrocyte, but none showed more than the one per cent of basophilic erythrocytes accepted as normal. In active plumbism this percentage rises to 1.5 or as high as 4.0. However, the authors cite the case of a twenty-six year old man admitted to the University Hospital, who, while on a vacation trip, ate three apples which he had picked from a roadside orchard. The apples were covered with a whitish spray substance which he partially removed with a handkerchief. During the next few days he suffered first from diarrhea and then from a gradually extending maculopapular rash. Arsenic was found in the urine on the day following admission.

Apparently rinsing of sprayed apples in cold water or wiping with a cloth are not effective measures for removing the lead load. The proper procedure is the one per cent hydrochloric-acid rinse outlined by the United States Department of Agriculture and generally in use for the preparation of sprayed apples entering into interstate commerce. However, apples distributed in intrastate commerce are subject only to state regulations. The authors feel that apple growing states should enact laws giving the state department of health regulatory power to protect consumers against spray residues.

RECENT COURT DECISION

On November 30, 1936, the United States Circuit Court of Appeals for the Second Circuit, subordinate only to the United States Supreme Court in authority, handed down an important decision in the matter of contraceptive articles. Because of the medical phase of this subject we believe Iowa physicians will be interested in reviewing this very liberal interpretation of a federal statute, and are herewith presenting a verbatim copy of the decision:

"It is true that in 1873, when the Comstock Act was passed, information now available as to the evils resulting in many cases from conception was

most limited and accordingly it is argued that the language prohibiting the sale or mailing of contraceptives should be taken literally and that Congress intended to bar the use of such articles completely. While we may assume that Section 305 (a) of the Tariff Act of 1930 exempts only such articles as the Act of 1873 excepted, yet we are satisfied that this statute, as well as all the acts we have referred to, embraced only such articles as Congress would have denounced as immoral if it had understood all the conditions under which they were to be used. Its design, in our opinion, was not to prevent the importation, sale or carriage by mail of things which might intelligently be employed by conscientious and competent physicians for the purpose of saving life or promoting the well being of their patients. The word "unlawful" would make this clear as to articles for producing abortion and the courts have read an exemption into the act covering such articles even where the word 'unlawful' is not used. The same exception should apply to articles for preventing conception. While it is true that the policy of Congress has been to forbid the use of contraceptives altogether if the only purpose of using them be to prevent conception in cases where it would not be injurious to the welfare of the patient or her offspring, it is going far beyond such a policy to hold that abortions, which destroy incipient life, may be allowed in proper cases, and yet that no measures may be taken to prevent conception even though a likely result should be to require the termination of pregnancy by means of an operation. It seems unreasonable to suppose that the national scheme of legislation would involve such inconsistencies and should require the complete suppression of articles, the use of which in many cases is advocated by such a weight of authority in the medical world."

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Meeting of Medical Economics Committee
Masonic Temple, Sioux City
May 12, 1937

Roll Call: All members present except J. C. Donahue of Centerville.

Transactions: 1. Mr. Lodwick, State Director of the Rural Resettlement Administration, explained the program of the administration. He outlined the extent of the problem in Iowa and urged that some kind of a medical program be worked out which would be satisfactory to the medical profession, and which would enable the administration to provide for medical care for their relief clients. 2. After considerable discussion the Committee decided not to take any definite action concerning

this program at this time other than to amplify the motion which they had concurred in with the Council at the Committee's last meeting concerning the medical relief program of the Iowa Emergency Relief Administration to include the medical program of the Rural Resettlement Administration. 3. Adopted the following motion: That the Medical Economics Committee recommend to the House of Delegates that the Iowa State Medical Society request the Governor to appoint as one member of the five members of the Social Security Board a member of the Iowa State Medical Society. 4. Passed the following resolution: That the Medical Economics Committee memorialize the House of Delegates of the Iowa State Medical Society to in turn memorialize the American Medical Association to establish a department of Public Relations whose function it should be to carry on a permanent campaign of publicity and advertising.

Meetings of the Council
Hotel Warrior, Sioux City
May 12, 1937

The Council of the Iowa State Medical Society met at noon on Wednesday, May 12, 1937, at the Hotel Warrior in conjunction with the secretaries' and past presidents' conference. All members were present with the exception of Earl B. Bush of Ames.

Hotel Warrior, Sioux City
May 13, 1937

The Council of the Iowa State Medical Society met at 2:00 p. m., Thursday, May 13, 1937, at the Hotel Warrior.

Roll Call: All members of the Council were present.

Transactions: 1. Correction and approval of the Council minutes for the meetings on November 11, 1936, March 20, 1937, and May 12, 1937. 2. Discussion of the recent campaign of the Women's Field Army for the Control of Cancer in Iowa. 3. Discussion of the resolution of the Decatur County Medical Society which was referred to the Council by the House of Delegates. 4. Explanation by Dr. Guy P. Reed of Decatur County concerning the situation which had given rise to the passing of the resolution. 5. Council adopted a motion that the Secretary of the Iowa State Medical Society should write a letter to each county society secretary, to be read to the members of the county societies, stressing the fact that no member should contribute his services in conducting clinics of any kind unless the clinic had been approved by the county society, and that approval had been expressed through the secretary of the society, in the county in which the clinic was to be conducted. It was the opinion of the Councilors, concurred in by Dr. Reed, that this should take care of situations similar to that which had recently arisen in Decatur County. 6. Discussion of projects of the Cancer Committee, including the possibility of establishing a statewide system of filing and recording of cancer records.

Hotel Warrior, Sioux City
May 14, 1937

The Council met again on Friday morning, May 14, 1937, at 7:15 a. m. All members were present. This special meeting was called to discuss problems concerning the Speakers Bureau Committee.

Masonic Temple, Sioux City
May 14, 1937

Immediately following the adjournment of the House of Delegates, the Council was called together for its annual reorganization meeting.

Roll Call: All members were present, including the newly elected Councilor for the Seventh District, F. P. McNamara of Dubuque and the three re-elected Councilors, Felix A. Hennessy, C. W. Ellyson and M. C. Hennessy.

Transactions: 1. Election of M. C. Hennessy as Chairman of the Council. 2. Election of J. E. Reeder as Secretary of the Council. 3. Appointment of Earl B. Bush as Acting Chairman of the Speakers Bureau Committee. 4. Selection of a committee to study the matter of Speakers Bureau organization.

Meeting of the Board of Trustees
State Society Office, Des Moines
May 25, 1937

The Board of Trustees of the Iowa State Medical Society met at the central office in Des Moines on Tuesday, May 25, 1937, at 1:30 p. m.

Roll Call: All members of the Board were present. Others present were: E. M. Myers, President; Robert L. Parker, Secretary; Harold J. McCoy, Treasurer; Lee F. Hill, Editor; Fred Moore, Chairman, Committee on Public Policy and Legislation.

Transactions: 1. Election of Dr. Fay as Chairman of the Board. 2. Authorization given Dr. Fay to sign regular, routine monthly bills. 3. Approval of annual session bills. 4. Approval of regular monthly bills. 5. Approval of continuing carrying Secretary's and Treasurer's Bonds with Hopkins & Mulock, Inc., of Des Moines. 6. Report of Secretary concerning membership status. 7. Board voted to give letter of authorization to Bankers Trust Company to cash checks with Secretary's endorsement. 8. Authorization given for purchasing new drapes to replace those outworn in office. 9. Review of report of Fracture Committee adopted by House of Delegates concerning meeting of the entire committee. Board voted to authorize traveling expenses for only the central committee of seven. 10. Discussion of recommendation adopted by House of Delegates concerning establishment of statewide system of filing and reporting of cancer records in Iowa. Board voted to ask for further information concerning such a set-up and its probable cost. 11. Executive Session. Fixing of salaries of Treasurer and Secretary. Election and fixing of salaries of Editor and office personnel. 12. Examination, with the Treasurer, of the securities of the Iowa State Medical Society.

WOMAN'S AUXILIARY NEWS

MRS. FRED MOORE, *Chairman of Press and Publicity Committee*
3407 Lincoln Place Drive, Des Moines

President—MRS. S. E. LINCOLN, 2220 East Thirty-second Street, Des Moines

Secretary—MRS. JAY C. DECKER, 722 Thirty-sixth Street, Sioux City

Treasurer—MRS. WILLIAM R. HORNADAY, 3011 High Street, Des Moines

GREETINGS FROM YOUR PRESIDENT

As we cross the threshold and enter upon another year in the auxiliary we are confident that the work so well begun will continue to grow and develop after our friendly, informal meeting in the delightful convention at Sioux City.

Because of the high ideals and altruistic purpose of medical men, there is a deep feeling of fraternity and fellowship among them. We, their wives and daughters, can scarcely fail to catch their kindly attitude and be glad for an opportunity such as the auxiliary offers to strengthen the bonds of friendship and understanding among the families of a group which has so much in common. Younger matrons, especially, enjoy the contacts with the older women of the auxiliary who have made a place for themselves in the community.

Preventive medicine is in a large measure dependent upon an enlightened public for its success. It is in this field that auxiliary members find adequate expression for their interest in health activities. Most of them have a sincere concern and are active in assisting with the health phases of programs in various organizations. The leaders in these groups depend upon the wives of doctors to give them advice and counsel. As a liaison worker one must be well read and carefully informed if the advice is to be wise and conservative; hence an occasional scientific presentation on a subject of local community interest is helpful to the auxiliary members, and this of course would be supplemented by considerable reading on the part of each in the special field of health work in which she is interested.

We have high hopes that under the able leadership of Mrs. Channing G. Smith of Granger, as organization chairman, a number of county medical societies will ask us to assist in forming auxiliaries in their respective counties during the coming year.

Wishing you all a happy summer, I am,

Cordially yours,

Mrs. (S. E.) Millicent Lincoln, President.

REPORT OF BUSINESS SESSION

The Eighth Annual Meeting of the Woman's Auxiliary to the Iowa State Medical Society was held in the Martin Hotel, Sioux City, May 12 and 13, 1937,

with one hundred and thirty-six members and several visitors from adjoining states in attendance. In the absence of Mrs. William Cody, president of the Woodbury County Auxiliary, Mrs. Wayland K. Hicks, vice president, presided over the sessions, and a word of appreciation should be extended to her for the capable and efficient manner in which she did so. Mrs. H. H. Hagedorn gave memorial tribute to the following deceased members:

Mrs. William Jepson, wife of Dr. William Jepson of Sioux City, who had given splendid service to the state auxiliary. Grief was fresh in the hearts of the Sioux City women who had so recently lost a beloved friend and leader.

Mrs. Howard W. Smith, wife of Dr. Howard W. Smith of Woodward, who had faithfully served her community as a doctor's wife.

Mrs. Clara Simpson Priestley, wife of Dr. James Taggart Priestley, and the mother of Dr. Crayke Priestley, both of whom preceded her in death. She leaves two splendid grandsons, Dr. James Taggart Priestley of Rochester, Minnesota, and Dr. Joseph B. Priestley of Des Moines, both of whom are carrying on the traditions handed down by a long line of distinguished medical predecessors.

Mrs. Amanda Cummins Smouse, wife of Dr. David W. Smouse of Los Angeles, California, who with her husband, presented the fine Smouse School to the Des Moines Public Schools. This school for the physically handicapped will accommodate two hundred and fifty children, and is the first of its kind in existence. Upon the doorway entering the patio of the school one may read the following inscription from Mrs. Smouse to the children:

"Beneath this roof-tree, may each one find his work,
And in that work a joy in service,
And faith in humankind."

The Downing Membership Cup was presented to the Polk County Auxiliary with eighty-eight members, a gain of 51 per cent over last year. Mrs. Hugh B. Woods, the president, surprised and pleased, responded, giving full credit to Mrs. Thomas B. Throckmorton, her predecessor. The state president, Mrs. C. A. Boice, reported twenty-six counties as organized, with a total membership of 436. She expressed her appreciation for the splendid work of the committees and officers, and reported her attendance at a National Board meeting in Chicago.

In the absence of Mrs. Harold Spilman, because of the illness of her mother, Mrs. E. B. Hoeven of Ottumwa, acted as secretary for the entire meeting. Mrs. Channing G. Smith, chairman of legislation, reported the laws enacted to secure the benefits of the federal Social Security Act in the field of public health. Mrs. M. C. Hennessy, chairman of the educational program, reported on the use of her material not only in Iowa but in other states. Mrs. William A. Seidler, chairman of public relations, informed the group that three hundred essays were submitted in the essay contest on the subject, "The Importance of Vision." These essays came from 150 high schools in forty-six different counties of the state, and she estimated that more than 3,000 children had written papers on the subject. Mrs. Seidler expressed appreciation for the splendid cooperation of the Speakers Bureau of the Iowa State Medical Society, and Dr. Harold J. McCoy, Dr. J. H. Kinnaman of the State Department of Health, and Miss Florence Prehm of the State Department of Public Instruction, all of whom gave valuable assistance in the final judging. A telegram of greeting and appreciation was sent to Mrs. E. L. Bower, historian, who was unable to be present because of illness. Mrs. J. C. Donahue, chairman of revisions, recommended that the by-laws be revised to include an organization committee and a finance committee. This change was adopted.

Dr. Walter L. Bierring, State Health Commissioner, and past president of the American Medical Association, substituted for Dr. Heyd, and gave a complete outline of public health work in Iowa today, including the new work under the moneys secured through the federal Social Security Act. Dr. Prince E. Sawyer, president of the State Society, presented greetings to the auxiliary at the luncheon meeting, and Dr. Edward M. Myers, president-elect, expressed his hope that we would soon have ninety-four county auxiliaries to assist as liaison groups for the State Society. Dr. Dean D. Lewis, professor of surgery, Johns Hopkins Medical College, suggested in his talk that the women of the auxiliary could do much to make the hospital a more pleasant place for the patient.

Mrs. Walter L. Bierring and Mrs. A. M. Gordon, both of Des Moines, will serve as official delegates for the Iowa Auxiliary at the national convention of the auxiliary held in conjunction with the American Medical Association annual session in Atlantic City, June 7 to 12. Mrs. William R. Hornaday, treasurer, reported a balance of \$101.17 on hand at the opening of the year. This sum included \$50.50 due the national organization for 1938 dues.

The meeting closed with the installation of the following officers who were elected unanimously for the year 1937-1938:

President—Mrs. S. E. Lincoln, 2220 East Thirty-second Street, Des Moines.

President-Elect—Mrs. Dean W. Harman, Glenwood.

First Vice President—Mrs. F. P. Winkler, Sibley.

Second Vice President—Mrs. E. T. Warren, Stuart.

Third Vice President—Mrs. H. W. Morgan, Mason City.

Fourth Vice President—Mrs. E. A. Hanske, Bellevue.

Secretary—Mrs. Jay C. Decker, 722 Thirty-sixth Street, Sioux City.

Treasurer—Mrs. William R. Hornaday, 3011 High Street, Des Moines.

Director—Mrs. P. W. Beckman, Perry (1936-1938).

Director—Mrs. Harold Spilman, Ottumwa (1937-1939).

Report submitted by Mrs. Dean W. Harman,
Publicity Chairman, 1936-1937.

REPORT OF SOCIAL ACTIVITIES

The "Sioux Meddames," as the Auxiliary to the Woodbury County Medical Society is named, were very charming hostesses, and delighted all those in attendance at the meeting with the most gracious hospitality. The first entertainment was a lovely tea given in the beautiful new home of Mrs. C. C. Yancey, situated atop a high hill amidst long green grass and trees. A huge grate fire greeted us upon our entrance to the main parlor, and many charming young hostesses, wives of the younger doctors of the city, were there to welcome us. The table was exquisite with its rich lace cloth and a centerpiece of deep red stock with white candles. Mrs. Prince E. Sawyer and Mrs. P. B. McLaughlin poured. In the evening a dinner was given for the ladies at the Hotel Warrior, and was followed by a musical program consisting of string music by the Morningside Quartet, songs by the Shrine Chanters Quartet, and two groups of songs by Miss Della Beth De Bey of Orange City, accompanied by Gertrude Ohlmacher. Miss De Bey, who is the daughter of Dr. John G. De Bey, has a rich full contralto voice, and was a winner in the midwestern section of the National Music Contest. The final social event was a pretty luncheon at the Hotel Martin with individual favors at each plate. Mrs. Frederick Roost gave some delightful songs, and Dr. Harold Decker also sang for us.

Approximately four hundred persons attended the annual banquet on Thursday evening. The toastmaster, Dr. Arthur D. Woods of State Center, created a very jocular atmosphere with his happy humor, introducing Dr. Charles Gordon Heyd of New York, president of the American Medical Association, who extended greetings from the parent organization; Dr. Prince E. Sawyer, who gave a fine talk on cooperation; Dr. Edward M. Myers, whose address as president-elect was a masterpiece; Dr. Dean Lewis, who narrated some interesting and entertaining incidents; and concluding his introductions by presenting the speaker of the evening, Mr. Arthur F. Briese of Chicago, who delivered a humorous dissertation in the disguise of an Englishman.

Report submitted by Mrs. Walter L. Bierring.

SOCIETY PROCEEDINGS

Black Hawk County

Kellogg Speed, M.D., clinical professor of surgery, Rush Medical College, Chicago, was guest speaker for the Black Hawk County Medical Society, at a meeting held in Waterloo, Tuesday, May 18. Dr. Speed spoke on Acute Epiphysitis of the Proximal End of the Femur, and Everyday Injuries to the Knee Joint. His addresses were discussed by Arthur Steindler, M.D., professor of orthopedic surgery, State University of Iowa, College of Medicine. One hundred and twenty-five members and guests were in attendance.

Clinton County

The Clinton County Medical Society met at the Clinton Country Club for the regular meeting on Thursday, May 13, and had as its guest speaker, Fredrick A. Willius, M.D., head of the cardiologic department of The Mayo Clinic, who presented a very interesting discussion of Diseases of the Coronary Arteries. Physicians from surrounding territories were guests of the society at this meeting.

A. K. Meyer, M.D., Secretary

Floyd County

Tuesday, May 25, the regular meeting of the Floyd County Medical Society was held at the Cedar Valley Hospital in Charles City, with Daniel J. Glomset, M.D., of Des Moines, furnishing the scientific program with a paper on The Modern Treatment of Congestive Heart Failure.

H. A. Tolliver, M.D., Secretary

Hardin County

Mark W. Dick, M.D., of the pediatric division of the State University of Iowa, College of Medicine, addressed the Hardin County Medical Society at its regular meeting held at the Winchester Hotel in Eldora, Tuesday, May 25.

W. E. Marsh, M.D., Secretary

Harrison County

A symposium on cancer, with the following speakers, was presented for the Harrison County Medical Society at a meeting held in Logan, Tuesday, May 18: Classification, F. X. Tamisiea, M.D., of Missouri Valley; Skin Cancer, S. M. Clark, M.D., of Woodbine; Malignancy, E. J. Cole, M.D., of Woodbine; and Heredity, F. H. Hanson, M.D., of Magnolia.

Jasper County

William F. Mengert, M.D., assistant professor of obstetrics and gynecology, State University of Iowa,

College of Medicine, spoke before the Jasper County Medical Society in Newton, Tuesday, May 4, on Toxemias of Pregnancy.

Johnson County

The following scientific program was given for members of the Johnson County Medical Society, at a meeting of that organization held Wednesday, May 5, at the University Hospital in Iowa City: Toxicity of Lead-spray Residues on Iowa Grown Fruit, Ralph H. Heeren, M.D.; Roentgen Therapy in Certain Infections, David M. Earl, M.D.; and Injuries of Acromial Clavicular Articulation, W. W. Hayne, M.D. All essayists are of Iowa City.

W. M. Fowler, M.D., Secretary

Linn County

Newly elected officers of the Linn County Medical Society are: Dr. A. R. Zuercher, president; Dr. Thomas F. Suchomel, president-elect; Dr. H. O. Young of Marion, vice president; Dr. F. W. Mulsow, treasurer; Dr. John T. Hecker, secretary; and Dr. T. F. Hersch, editor of *The Bulletin*. The annual meeting at which the above named officers were named, was held June 1, in Cedar Rapids. The next meeting of the society will be held on Tuesday, June 29, when Harris Peyton Mosher, M.D., of the Harvard University Medical School, will speak on Modern Views of the Esophagus. Physicians in surrounding counties are cordially invited to be present.

T. F. Hersch, M.D., Program Chairman

Marshall County

The annual summer clinic of the Marshall County Medical Society was held Wednesday, May 26, at the Hotel Tallcorn in Marshalltown. The session opened at one-thirty in the afternoon with a skin clinic conducted by Ruben Nomland, M.D., of Iowa City, followed by a general discussion of allergy and skin diseases. The afternoon section closed with an address by Dean M. Lierle, M.D., also of Iowa City, on Malignancies About the Head. Waltman Walters, M.D., from The Mayo Clinic, Rochester, Minnesota, was guest speaker of the evening at the annual banquet. Dr. Walters spoke on Developments in the Management of Lesions of the Biliary Tract.

R. C. Wells, M.D., Secretary

Montgomery County

Thomas F. Thomsen, M.D., of Red Oak, furnished the scientific program for the Montgomery County Medical Society, at a meeting held in Villisca, Thursday, May 27, with a paper on The Management of Diabetes with Protamine Zinc Insulin.

Pottawattamie County

A joint meeting of the Pottawattamie and Woodbury County Medical Societies, was held at the Mercy Hospital in Council Bluffs, Monday, May 24, with the following program presented by three Sioux City physicians: Modern Concepts in the Treatment of Hip Fractures, Arch F. O'Donoghue, M.D.; Uses of the High Frequency Audiometer, James E. Reeder, M.D.; and Electrocardiography in Relation to Clinical Heart Disease, R. J. Harrington, M.D.

F. H. Beaumont, M.D., Secretary

Sac County

The Sac County Medical Society met in Sac City, Monday, May 17, for a social evening in place of the usual scientific program. Guests of the evening included Dr. F. L. Knowles of Fort Dodge, who showed some very interesting and beautiful films which had been made around his home and in Mexico on his visit to that country last January; and Dr. E. M. MacEwen, dean of the State University of Iowa, College of Medicine, who spoke on The Relation of Medical Education to the Practitioners of Iowa. This talk was well received and instructive.

G. H. Bassett, M.D., Secretary

Scott County

Dr. Frederick Lambach of Davenport, who has spent fifty years in the practice of his chosen profession, was honored at a dinner given by the Scott County Medical Society, Tuesday evening, May 4, at the Hotel Blackhawk in Davenport. After the six-thirty dinner, members and their wives adjourned to the High School Auditorium to hear Bert I. Beverly, M.D., assistant professor of pediatric psychiatry, Rush Medical College, Chicago, present an address on Behavior Problems in Children. The public was invited to this meeting, and a large attendance was evidence of the public's interest in this subject.

H. A. Meyers, M.D., Secretary

Washington County

The Washington County Medical Society met Tuesday, May 25, in the Nurses' Home in Washington for the regular May meeting. After a six-thirty dinner Marvin F. Haygood, M.D., of the State Department of Health, gave the address of the evening on the subject of Tuberculosis. The society voted to cooperate with the County Health Unit and the State Department of Health, in a study of the prevalence of tuberculosis in Washington County.

W. S. Kyle, M.D., Secretary

Des Moines Valley Medical Society

The Sixty-fourth Annual Meeting of the Des Moines Valley Medical Society was held in Ottumwa, Thursday, April 29, and a previous issue of the JOURNAL reported on the scientific program which was presented at that time. Newly elected officers

of the organization are: Dr. J. L. Taylor of Montezuma, president; Dr. E. B. Wilcox of Oskaloosa, first vice president; Dr. J. A. Dulin of Sigourney, second vice president; and Dr. E. B. Howell of Ottumwa, secretary and treasurer.

State Society of Iowa Medical Women

The following officers were named to serve the State Society of Iowa Medical Women during 1937 and 1938, at the annual meeting of that group, held in Sioux City, May 12, in conjunction with the Eighty-sixth Annual Session of the Iowa State Medical Society: Dr. Rose Butterfield of Indianola, president; Dr. Ruth F. Wolcott of Spirit Lake, vice president; Dr. Nelle Thomas Schultz of Humboldt, secretary; and Dr. Jeannette Dean-Throckmorton of Des Moines, treasurer.

PERSONAL MENTION

Dr. Monroe P. Allison is locating in Northwood, where he will take over the practice and office equipment of the late Dr. Paul Kase in that vicinity. Dr. Allison was graduated in 1935 from the State University of Iowa, College of Medicine, and received two years of internship from Broadlawns Hospital in Des Moines.

Dr. Pauline V. Moore of Solon, was elected secretary and treasurer of the Iowa Branch of the Medical Women's National Association, at the annual meeting of that organization held in Sioux City, May 12.

Dr. Wendell M. Willett has located in Des Moines for the practice of dermatology, where he will be associated with his father, Dr. H. C. Willett. Dr. Wendell Willett was graduated in 1934 from The School of Medicine of the Division of the Biological Sciences, University of Chicago, and has just completed a three years' assistantship in the department of dermatology, University of Chicago.

Dr. C. V. Edwards of Council Bluffs, spoke before the Mothers' Club of Exira, Wednesday, May 19, on the topic, "Nervous Children."

Dr. E. O. Muhs, who last month moved from Durant to Muscatine, turned over his practice and office equipment to Dr. J. E. Christiansen, a recent graduate of the State University of Iowa, College of Medicine. Dr. Christiansen is now completing his interne work at St. Luke's Hospital in Duluth, Minnesota, and will arrive in Durant about July 1. It was reported in the May issue of the JOURNAL that Dr. Muhs' practice was to be taken care of by Dr. Paul B. Lonergan, but we have been informed by Dr. Muhs that Dr. Lonergan is opening separate offices.

Dr. R. M. Sorensen of Cherokee, addressed biology students at Wilson High School of Cherokee, Tuesday, May 18, on "The History of Immunization."

Dr. S. M. Clark is leaving Woodbine where he has practiced medicine for the past sixteen years, and moving to his old home of Halftown, Missouri, where he will continue in his chosen profession.

Dr. Ludwig Gittler of Fairfield, spoke before the local Public Welfare Department, Wednesday, May 19, on the subject, "Social Diseases."

Dr. F. J. Stodden, after practicing medicine in Mapleton for the past thirteen years, has opened offices in Sioux City, where he will be located in the Morningside Savings Bank Building.

Dr. James E. Dyson of Des Moines discussed "Child Health and Welfare," at a meeting of the Boxholm Parent-Teacher Association, Friday, May 7.

Dr. Mark C. Wheelock, assistant superintendent of the Mt. Pleasant State Hospital, has resigned, and accepted a position at the Western Reserve University School of Medicine, Cleveland, Ohio.

Dr. E. C. Kepler, formerly of Waverly, is locating in Grinnell, where he will continue to practice his specialty, diseases of the eye, ear, nose and throat.

Dr. S. S. Westly of Manly, spoke over Radio Station KGLO at Mason City, Monday, May 10, on the proposed county immunization program in Worth County.

Dr. D. L. Grothaus, who has practiced medicine in Delta for twenty-one years, has retired from active practice. Dr. Chester Demaree, formerly of Dysart, has come to Delta to take over Dr. Grothaus' practice and equipment.

Dr. P. A. Nierling, who was graduated in 1932 from the State University of Iowa, College of Medicine, has opened offices for the practice of medicine and surgery in Cresco.

Dr. H. S. Frenkel, after one year's practice at Bedford, has located permanently in Clarinda. Dr. Frenkel has had an extensive European training, being graduated in 1933 from Westfälische Wilhelms-Universität Medizinische Fakultät, Münster, Westphalia, and being chief assistant physician in the university hospital for internal diseases and tuberculosis at Basel, Switzerland.

The following new associations have been announced during the past month in the state of Iowa:

Dr. T. A. Robertson, graduate of the State University of Iowa, College of Medicine, with Dr. L. A. Royal at West Liberty.

Dr. G. Barklie Johnston, graduate of the State University of Iowa, College of Medicine, with Dr. J. P. Clark of Estherville.

Dr. F. O. Rolfs, graduate of the State University of Iowa, College of Medicine, son of Fred A. Rolfs, M.D., of Aplington, with Dr. E. J. Ringena of Brooklyn.

MARRIAGES

The marriage of Miss Rachel Dorothy McDaniel and Dr. Carl A. Kunath, both of Iowa City, took place Saturday, June 5, at the home of the bride's aunt and uncle, Mr. and Mrs. C. F. McDaniel, at Cedar Rapids. Dr. Kunath was graduated from Harvard University Medical School in 1932, and has been a member of the surgical staff at the University Hospitals in Iowa City for the past four years.

Miss Ida Sabo, daughter of Mr. and Mrs. L. L. Sabo of Canton, Ohio, and Dr. Roscoe M. Needles of Anita, were married May 20, at the home of the bride's parents in Canton. After a short trip through the eastern states, Dr. and Mrs. Needles will return to Anita, where he has been in practice for the past year.

Miss Grace L. A. Darling, daughter of Mr. and Mrs. Stephen M. Darling of Moline, Illinois, and Dr. John T. Hecker of Cedar Rapids, will be married Saturday, June 12, in Moline. Dr. Hecker was graduated from the University of Michigan Medical School in 1933. He has been practicing in Cedar Rapids for the past year, and the young couple will make that city their home.

DEATH NOTICES

Bacon, Lyman Bon, of Westboro, Massachusetts, former resident of Pacific Junction, Iowa, aged seventy-seven, died in Memorial Hospital, Worcester, Massachusetts, May 14, following a brief illness. He was graduated in 1882 from Western Reserve University School of Medicine, Cleveland, and at the time of his death was a life member of the Mills County and Iowa State Medical Societies.

Osborn, James William, for many years a resident of Des Moines, Iowa, died May 21 at his home in LaFeria, Texas, following a heart attack. He was graduated in 1888 from Drake University College of Medicine, Des Moines, and in 1901 from the Medico-Chirurgical College of Philadelphia. At the time of his death, Dr. Osborn was a life member of the Polk County and Iowa State Medical Societies.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. MCCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

A Reunion of Past Presidents of the Iowa State Medical Society

An interesting luncheon was arranged by the past presidents of the Iowa State Medical Society, at the recent annual session of the organization held in Sioux City, May 12, 13 and 14, 1937. The following past presidents attended the luncheon: Dr. William Jepson of Sioux City (1906); Dr. Walter L. Bierring of Des Moines (1908); Dr. Vernon L. Treyner of Council Bluffs (1913); Dr. Oliver J. Fay of Des Moines (1924); Dr. Frank M. Fuller of Keokuk (1925); Dr. Smith A. Spilman of Ottumwa (1926); Dr. John H. Peck of Oakdale (1930); Dr. Channing G. Smith of Granger (1932); Dr. William W. Bowen of Fort Dodge (1933); Dr. Charles B. Taylor, formerly of Ottumwa, and more recently of San Antonio Heights, Upland, California (1934); Dr. Gordon F. Harkness of Davenport (1935); and Dr.

Thomas A. Burcham of Des Moines (1936). The following living past presidents were unable to attend: Dr. Lee Wallace Dean of St. Louis, formerly of Iowa City (1914); Dr. William B. Small of Waterloo (1916); Dr. Thomas U. McManus of Waterloo (1929); and Dr. William A. Rohlf of Waverly (1931).

VASE FOR PAST PRESIDENTS

The centerpiece on the luncheon table for this reunion was a beautiful silver vase, presented for the occasion by Dr. William Jepson of Sioux City. Near the top of the vase appears the inscription, "Past Presidents of the Iowa State Medical Society," and below in four columns are inscribed the names and years of service of eighty-seven presidents, beginning with Dr. Enos Lowe, who served the society in that capacity in 1851, and ending



PAST PRESIDENTS ATTENDING SIOUX CITY SESSION, MAY 12, 13 AND 14, 1937

Background—Thomas A. Burcham, Charles B. Taylor, Gordon F. Harkness, Frank M. Fuller, John H. Peck, Walter L. Bierring and William Jepson.

Foreground—Oliver J. Fay, William W. Bowen, Smith A. Spilman, Vernon L. Treyner and Channing G. Smith.

with Dr. Prince E. Sawyer, who completed his stewardship at this 1937 session. Spaces remain for thirteen more names, thus permitting a total list of one hundred past presidents of the Iowa State Medical Society. The idea and design of this interesting vase originated with Dr. Jepson, and will constitute a unique souvenir for future reunions of past presidents.

ONE HUNDRED AND TEN YEARS AGO

The accompanying illustration of an account for medical services rendered by Dr. John Dickinson of Cape May County, New Jersey, covering the period from November 7, 1826, to January 9, 1832, has been preserved in the family archives of Miss Sarah Ross of Newton, Iowa, whose grandfather, Mr. James Holmes, was the person to whom the account was rendered. Appreciation is hereby expressed to Miss Ross for permitting the publication of this historical bill for professional services.



Mr. James Holmes Sr.

1826	Nov. 7.	To a Ballance brought forward	to John Dickinson	2.00
		To 1 Visit & Delivery	Wife	4.00
1827	Jan. 24.	To 1 Visit in part & medicine	Wife	.50
	July 27.	To 1 Visit & medicine	Child	.50
1828	March 8.	To 1 Visit to Child		.50
	May 16.	To 1 Visit & medicine	Child	.50
	Aug. 22.	To 1 Visit & medicine	Child	.50
	Sept. 11.	To 1 Visit & medicine	Blistering Self	.50
1829	Jan. 12.	To 1 Visit & medicine	Sarah	.50
	March 11.	To 1 Visit in part & medicine	Wife	.25
	Sept. 13.	To 2 Visits & medicine	Self	1.00
	Octob. 12.	To 3 Visits Bleeding & medicine	Eliza	1.75
	18.	To 1 Visit & Examining Leg	Charles	.50
	Dec. 24.	To 1 Visit & Bleeding	Eliza	.50
	30.	To 1 Visit & Examining	Self	.50
1830	Feb. 26.	To 1 Visit to little Boy		.50
	July 3.	To 1 Visit & medicine	Child	.50
1831	October 9.	To 1 Visit & medicine	Wife	.50
	Dec. 7.	To medicine at four times	Wife	.80
1832	Jan. 9.	To 3 Visits & medicine for Widow since his Death		1.50
				<u>\$16.75</u>

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE CLINICAL USE OF DIGITALIS—By Drew Luten, M.D., associate professor of clinical medicine, Washington University School of Medicine. Charles C. Thomas, Publisher, Springfield, Illinois, 1936. Price, \$3.50.

THE DISEASES OF INFANTS AND CHILDREN—By J. P. Crozer Griffith, M.D., emeritus professor of pediatrics, University of Pennsylvania; and A. Graeme Mitchell, M.D., professor of pediatrics, College of Medicine, University of Cincinnati. Second edition, revised and reset; 1153 pages with 293 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$10.00.

DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN—Edited by Robert L. Levy, M.D., professor of clinical medicine, College of Physicians and Surgeons, Columbia University. The Macmillan Company, New York, 1936. Price, \$6.00.

ENDOCRINOLOGY: CLINICAL APPLICATION AND TREATMENT—By August A. Werner, M.D., assistant professor of internal medicine, St. Louis University School of Medicine. Octavo of 672 pages, illustrated with 265 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.

A HANDBOOK OF AMBULANT PROCTOLOGY—By Charles Elton Blanchard, M.D., The Poland Study, Youngstown, Ohio. Medical Success Press, Youngstown, Ohio, 1937. Price, \$5.00.

INTERNATIONAL CLINICS, Volume I, Forty-seventh Series—Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia, 1937.

THE 1936 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY—Edited by Joseph B. DeLee, M.D., and J. P. Greenhill, M.D. The Year Book Publishers, Chicago, 1937. Price, \$2.50.

AN INTRODUCTION TO MEDICAL SCIENCE—By William Boyd, M.D., professor of pathology in the University of Manitoba. Octavo of 307 pages, illustrated with 108 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$3.50.

LIGHT THERAPY—By Frank Hammond Krusen, M.D., associate professor of physical medicine, The Mayo Foundation, University of Minnesota. Second edition, revised and enlarged. Paul B. Hoeber, New York, 1937. Price, \$3.50.

MATERIA MEDICA, TOXICOLOGY AND PHARMACOGNOSY—By William Mansfield, A.M., Phar.D., dean and professor of materia medica and toxicology, Union University, Albany College of Pharmacy, Albany, New York. The C. V. Mosby Company, St. Louis, 1937. Price, \$6.75.

OPERATIVE SURGERY—By J. Shelton Horsley, M.D., attending surgeon, St. Elizabeth's Hospital, Richmond, Virginia; and Isaac A. Bigger, M.D., professor of surgery, Medical College of Virginia. In two volumes. C. V. Mosby Company, St. Louis, 1937. Price, \$15.00 per set.

THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE—By Charles H. Best, M.D., and Norman B. Taylor. William Wood & Company, Baltimore, 1937. Price, \$10.00.

THE SOCIAL COMPONENT IN MEDICAL CARE—A Study of one hundred cases from the Presbyterian Hospital in the city of New York. By Janet Thornton, director, Social Service Department. Columbia University Press, New York, 1937. Price, \$3.00.

THE 1936 YEAR BOOK OF GENERAL THERAPEUTICS—Edited by Bernard Fantus, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois College of Medicine. The Year Book Publishers, Chicago, 1937. Price, \$2.50.

BOOK REVIEWS

A HANDBOOK OF OCULAR THERAPEUTICS

By Sanford R. Gifford, M.D., professor of ophthalmology, Northwestern University Medical School. Second edition, enlarged and revised; 341 pages with 60 illustrations. Lea and Febiger, Philadelphia, 1937. Price, \$3.75.

This second edition appearing five years after the first edition in 1932, consists of a concise book on modern ocular therapeutics.

Its contents include the indications for and relative merits of the various anesthetics, hypnotics, and narcotics used in the practice of ophthalmology. Likewise the mydriatics, cycloplegics, miotics and local antiseptics are evaluated. Various other therapeutic measures with their indications and merits are discussed, such as the use of vitamins, glandular extracts, sera, vaccines, tuberculin, nonspecific foreign protein, phototherapy, diathermy, roentgen therapy, massage and surgery. The presentation of the therapy of the various ocular diseases, their frequency of incidence, etiology, behavior under treatment, and prognosis, is very ably accomplished.

Appended to this work is a chapter on conditions, the treatment of which is on an experimental or unsatisfactory basis which includes retinitis pigmentosa and myopia. This book is so written that it should be indispensable to every practicing ophthalmologist.

C.C.J.

CARCINOMA OF THE FEMALE GENITAL ORGANS

By M. C. Malinowsky, E. Quater and contributors. Translated from the Russian by A. S. Schwartzmann, A.B., M.D. 255 pages with 66 illustrations. Bruce Humphries, Inc., Publishers, Boston, 1937. Price, \$5.00.

Carcinoma is an acute medical problem. Since a high percentage of all carcinomas occurring in the female are carcinomas of the sexual sphere, it would seem well that one have as complete a conception of this malignant disease as it is possible to obtain. In this volume the authors have discussed malignant disease of the female organs of reproduction from various viewpoints.

The theories of the etiology of tumors and carcinomas are discussed. Both the gross and microscopic pathology is given. The early clinical findings and methods of diagnosis are stressed. The book contains considerable data and tables pertaining to the frequency of occurrence and age incidence of carcinomas of the various organs. There are also tables on the percentage of cures resulting from various methods of treatment applied to them in their various stages of development.

The technic of both the surgical and ray method of treatment is presented in detail and is well illustrated. Emphasis, however, is placed on the desirability of radium and/or roentgen ray treatment,

where it is possible to obtain it, for carcinomas of the cervix and fundus uteri. There is also a chapter on palliative treatment for incurable cases.

The closing chapter gives a short explanation of social insurance in the Union of Socialist Soviet Republics and a discussion of the medical valuation of disability resulting from carcinomas of the sexual sphere.

A.D.J.

THE 1936 YEAR BOOK OF GENERAL MEDICINE

Edited by George F. Dick, M.D., Lawra-son Brown, M.D., George R. Minot, M.D., William B. Castle, M.D., William D. Stroud, M.D., and George B. Eusterman, M.D. The Year Book Publishers, Chicago, 1936. Price, \$3.00.

This book reviews the literature which appeared during 1936 on the important divisions of general medicine, including infectious diseases, diseases of the chest, blood, blood forming organs, kidney, heart, blood vessels, the digestive system and metabolism.

The reviews are concise and easily readable. Short comments by the editor follow most reviews. It is valuable to anyone desiring to keep abreast with the rapid progress in medicine without the laborious process of reading the extensive literature which few have access to. With minimum expenditure of time and effort the reader can obtain from the book, a survey of the articles written during the year on the subjects above enumerated.

D.H.K.

A HANDBOOK OF AMBULANT PROCTOLOGY

By Charles Elton Blanchard, M.D. New and enlarged second edition. Medical Success Press, Youngstown, Ohio, 1937. Price, \$5.00.

This book offers the general practitioner a practical guide to office methods of treatment for all the more common rectal diseases. It gives good advice as to the modern equipment now available for rectal work. One particularly valuable chapter deals with the use of local anesthesia for rectal divulsion, used principally for spastic sphincter preceding treatment of fissure, irritable ulcers, and cryptitis. Cancer of the rectum, since it is not treated by ambulant methods, is not dealt with to any extent except for the presentation of diagnostic points. The technic for minor surgery of the rectum in relation to the excision of polyps, skin tags, clot piles or thrombotics, and strawberry piles, is given very explicitly. Use of the newer oil anesthetics for injection, where delayed absorption and prolonged anesthesia are de-

sired, is mentioned favorably and frequently, but no details of the technic are offered. Nothing is said of the frequency of sloughs, how sloughs accidentally occur, or how, at times, complete incontinence lasting for weeks to months may happen.

The material offered in this book necessary to fulfill the title "A Handbook of Ambulant Proctology" would at best fill only one-half of its three hundred pages. The remainder is padding composed of personal experiences, jokes, citations to previously published articles in the author's periodical "The Bulletin of Office Practice", and what is most noticeable of all, a vindictive attitude toward the surgeons and the American Medical Association, who early did not accept the ambulant form of treatment of rectal diseases. The author continually labors under the delusion that he must apologize for and explain away the disfavor of his specialty in its formative years. This reviewer feels that if such "digs" at his former critics and self emulation had been omitted, the book would have been more valuable, better reading, considerably more scientific and worthy, and definitely approach more closely a true "Handbook of Ambulant Proctology", since there is much in the volume to recommend it to any one interested in this specialty.

C.H.J.

THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE

By Charles H. Best, M.D., and Norman B. Taylor. William Wood & Company, Baltimore, 1937. Price, \$10.00.

This volume clearly explains in a most modern method the fundamental physiologic principles necessary for the intelligent practice of internal medicine in a manner never before presented to the medical profession.

Although written primarily for the medical student the practitioner gains insight into many physiologic processes indispensable for a clear conception of disease. The meaning and reasons for various new and old laboratory examinations become clearly understandable. The subject of diabetes mellitus and the new protamine zinc insulin could be handled by no greater authority than the co-discoverer of insulin. The newest knowledge concerning the glands of internal secretion receives excellent, comprehensive, and compact consideration. The physiology of all known vitamin action receives the same noteworthy handling. The physiology of the blood and lymph system, respiration, and digestion, as well as that of the urinary and nervous systems is dealt with fully.

This book again impresses inescapably upon the reader the fact that the successful practice of medicine and forward progress require a clear knowledge of physiology by the physician.

E.B.W.

The JOURNAL of the Iowa State Medical Society

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DES MOINES, JULY, 1937

No. 7

RECENT VIEWS OF SENILE CATARACT*†

SANFORD R. GIFFORD, M.D.
Chicago, Illinois

An immense amount of research has been conducted within recent years upon the crystalline lens and its pathologic changes. As would be expected the most important part of this has been based upon the findings of biologic chemistry. Groups at your Iowa State University, Johns Hopkins University, the University of Basel in Switzerland, and in our own clinic at Northwestern University have devoted much time to various aspects of the subject. Sometimes it seems as though an inordinate amount of brains and ink had been spilled for relatively small results; but gradually, pebble by pebble, certain facts about the physiologic processes in the lens and their derangement in various types of cataract have accumulated, so that if one compares what is known today with what was known twenty years ago it looks as though within another twenty years we may actually begin to know something about cataract. I felt that a brief summary of some of these newer findings could not fail to interest at least a few of the inquiring medical minds which take pleasure in a problem for its own sake, whether or not it is directed down their own particular alley of activity. I also feel it a duty to repeat a few axioms concerning the practical management of cataract which every physician probably knew at one time but which many have had occasion to forget.

In order to bring out the importance of certain biochemical findings it is necessary to remind you of the peculiar situation of the crystalline lens as regards nutrition. Developing as an invagination of the surface ectoderm into the optic vesicle, it at first is nourished by the hyaloid artery from behind and by vessels from the iris in its anterior

portion. By the time of birth, however, all these vessels have disappeared and the lens is left as a mass of ectoderm without any blood supply and nourished entirely by what it can absorb from the aqueous and vitreous humors. It remains, however, a living tissue throughout life, in the absence of pathologic changes, and actually increases in size by the growth of new fibers from the equatorial region where a group of fibers has retained its nuclei. These new fibers are laid down over older ones which are pressed nearer to the center of the lens and lose their nuclei. They become fused with other fibers to form the harder and more refractile nucleus of the lens. These central fibers without nuclei may be considered dead in one sense and it may be said that the lens begins digging its own grave at the time of birth or earlier. Biochemically, however, they are not dead, in that active metabolic processes continue to an advanced age in all lens fibers which remain clear.

This active metabolism in a tissue free from blood vessels requires certain arrangements which are different from those in vascular tissues. For a number of years it has been known that the normal lens contains an unusually rich supply of glutathione and that this substance is absent from the cataractous lens. This is a polypeptid containing a sulphur group which exists in either a reduced or oxidized form and hence is of great importance in maintaining the exchange of oxygen and hydrogen within the lens. For some time it was supposed that this substance and the cystein from which it was derived accounted for all of the oxidation-reduction processes in the lens. Within the past few years, however, another substance has been found which seems to be equally important. This is cevitic acid or Vitamin C, which is found in large amounts in the normal lens. It is found in reduced form in the aqueous humor in an amount fifteen times as great as in the blood. When the lens is removed or becomes cataractous the reduced form of cevitic acid disappears from the aqueous humor and the amount present in oxidized form becomes the same as that in the

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

†From the Department of Ophthalmology, Northwestern University Medical School.

blood. There seems to be evidence that cevitic acid is synthesized in the lens by the action of cystein on glucose. Experimental cataract has been produced in animals deficient in Vitamin C only under very special conditions which detract from its value for purposes of study. A third oxidation-reduction ferment which is undoubtedly important is flavin or Vitamin B₂, also called Vitamin G. Day and his associates, and O'Brien have shown that animals deficient in this vitamin develop cataract after seventy to eighty days and Day has recently referred to it as the cataract-preventive vitamin.

In addition to the production of cataract by vitamin deficiencies, experimental cataract has been produced by other means. Poisoning by naphthalene has long been known to cause cataract and recently we have all seen cases of cataract caused by the use of dinitrophenol for obesity. A type of experimental cataract which is of especial interest is that produced in rats after they are fed large amounts of galactose, as first employed by Mitchell and Dodge. Bellows in our clinic has been especially interested in this form of cataract, because it can be produced in 100 per cent of young animals, the opacities appearing within four days and the whole lens becoming opaque within fourteen to sixteen days. He has studied the chemistry of lenses affected by this type of cataract and has found that while the lens is still clear, glutathione in the lens shows a marked diminution. Loss of Vitamin C is noted also but not until later, when the lens has become opaque. By feeding large amounts of cystein to such animals, he was able to delay the process of opacification definitely but not to prevent it entirely. This preventive effect may be considered to indicate that the production of glutathione is interfered with by galactose and that this process may in part be prevented by an additional supply of cystein. The preventive effect of Vitamin C in excess was much less than that of cystein. The effect of an active estrogenic extract was tried and was found to be even more definite than that of cystein. While a chemical explanation of this latter fact cannot be given at present, the effect on this experimental type of cataract was unmistakable and seems to be worth further study. (Bellows' latest work is as yet unpublished, but I have his permission to mention it here.)

It must be said, when speaking of such experimental results, that none of them can be directly applied to senile cataract. While in certain chemical respects the processes are similar, the fact that animals on galactose or vitamin deficient diets show marked systemic symptoms and that some of them die, separates the picture from that of se-

nile cataract, which occurs in persons of sound general health. It must also be remembered that even in experimental cataract, opacities once formed have not been made to clear up by any of the means mentioned.

An attractive theory may be formulated according to which subclinical deficiencies of Vitamin B₂ or Vitamin C, or even of the estrogenic hormone may be assumed to remove certain reserves which protect the lens against various toxic factors which, when such reserves are depleted, effect a disturbance in lens metabolism sufficient to cause cataract. For the present, however, it must be insisted upon that such a theory is far from being proved and that the only definite factors known to cause senile cataract are senility and heredity. While it would be by no means absurd to advise a liberal supply of the accessory food factors in patients with early cataract, this should be done with the understanding that such advice as yet rests upon no certain grounds.

Of non-surgical "cures" for cataract it is impossible to speak and is likely to remain so. None of the evidence in favor of any method for clearing opacities already formed which has yet been presented is worthy of serious consideration.

The principal types of cataract, as most of you know, are nuclear and cortical, although the two may be associated. Nuclear cataract depends upon the gradual increase in the density of the nucleus which begins in every lens in early adult life and progresses until the time of death. The refractive index of the nucleus becomes higher and the early stages of nuclear sclerosis are marked by gradually increasing myopia. This is responsible for so-called "second sight" in old age and in many cases good vision may be obtained until death by occasional changes in refractive correction. In a fair number of cases, however, the nucleus becomes opaque and good vision can only be restored by operation. This type of cataract never becomes "mature" in the sense of complete opacification, but may be removed, and should be, whenever the opacity is sufficient to interfere with the patient's customary activities. Waiting for maturity would condemn many patients to practical blindness for the remainder of their lives, which is absolutely unnecessary. A special type of nuclear cataract is that in which the nucleus becomes brown and in some cases completely black. In such cases almost the whole lens becomes converted to a hard black nucleus. The indications for operation are the same as in any nuclear cataract.

Cortical cataract begins beneath the capsule at the equatorial portion of the lens. This is the region in which the fibers retain their nuclei normally, but when cataract develops, the nuclei in

certain groups of fibers lose their staining properties and the fibers become opaque. While nuclear sclerosis is an invariable accompaniment of old age, cortical opacities are not so often present, being found on careful examination in only about 80 per cent of persons at the age of eighty. Progress is likely to be more rapid in this type of cataract than in nuclear sclerosis, the wedge-shaped opacities becoming denser until the central region is involved, after which the whole cortex may become grey. It is not uncommon, even in this form of cataract, to observe little change in the opacities over a period of years, so that many subjects of cortical cataract never require operation. The same rule holds good here as in nuclear cataract. Operation is indicated whenever the patient's customary activities are seriously disturbed. Usually only the more mature cataract is operated upon first, the other being left until a later time, often when maturity has occurred. When one eye has a mature cataract and the other is slightly or not at all affected, it is still considered best to advise operation on the mature cataract. In spite of the fact that it may not be convenient to wear the strong correction necessary after such an operation while the unaffected eye is being used, a great deal of vision is obtained without any correction, and certain dangers which the hypermature state involves are thus avoided.

I would be remiss in my duty if I did not remind you that a number of conditions present in the senile eye may simulate cataract or may be present with cataract. Typical of these conditions is chronic simple glaucoma which usually causes no other symptoms than gradual loss of vision, but which requires a treatment and prognosis entirely different from that of cataract. Hence it is important that any patient with senile cataract or in whom this condition is suspected should be given a careful examination by an ophthalmologist who can detect such conditions as early as possible. Careful examination of the fundus after dilatation of the pupil should be made in every case of early cataract, since it may reveal changes such as senile degeneration or diabetic retinopathy which can never be seen when the cataract has reached a more advanced stage. One should know of these changes whenever possible, as they will materially affect the vision which may be expected.

When no complicating conditions are present, the results of the cataract operation in the hands of an experienced ophthalmic surgeon really leaves nothing to be desired. Both the intra- and extracapsular methods have their proponents. Since good results may be expected by either method, the merits of this controversy need not detain us long. What seemed like the extra risks of the intracapsular method made my conversion to it ex-

ceedingly slow; but the experience of the past few years with the Verhoeff method has convinced me that in most patients past the age of fifty-five the lens can be removed in the capsule with no more risk than by the extracapsular method and with tremendous advantages as regards freedom from postoperative inflammation and from that old bugbear, postoperative glaucoma. In the Verhoeff method the capsule is grasped near the upper pole after iridectomy and is then brought out in the erect position by just the right combination of traction and pressure. This avoids the necessity of tumbling the lens, a procedure in which most of the risks of the intracapsular method, especially that of vitreous loss, seem to be involved.

It must be repeated, however, that by thorough irrigation of the cortex after capsulotomy, results essentially as good can be obtained by the capsulotomy method in the hands of operators with a limited amount of material. In our clinic we like a combination of corneoscleral suture and sliding conjunctival flap which is suitable for either the intra- or extracapsular method. It reduces reopening of the wound and iris prolapse to extremely insignificant figures and allows us to give the patient more liberty than seemed safe with other methods. Regular orders are now: back rest immediately after operation, full freedom in bed after twenty-four hours, up in a chair after forty-eight hours, home on the eighth postoperative day.

SUMMARY

1. When asked about modern methods for the treatment of senile cataract, one is justified in saying, "There is no known non-surgical cure for cataract once formed. It may be possible to prevent cataract or to delay its progress by a liberal supply of vitamins in the diet or in the form of concentrates, but this has not been proved."

2. Cataract may be operated upon whenever it interferes seriously with vision.

3. Possible complications may be avoided by an early careful ophthalmologic examination of every case suspected of having cataract.

4. Good results may be expected by either the intra- or extracapsular method in the hands of an experienced surgeon.

HEAD SPECIALTIES: EVERYDAY PRACTICE*

T. R. GITTINS, M.D., Sioux City

Experiences in a goodly number of medical meetings during my twenty years of such associations have caused me to realize that the rank and file of those in attendance are quite often more interested in talking over everyday problems with

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friends and contemporaries than they are in listening to a steady stream of papers, many of which are of a highly special or technical nature. At times the essayist gives a fine resumé of the literature, but says very little concerning what he thinks or does himself. Again the literature on some subject may be dismissed lightly as being scanty and as having little bearing upon the subject being presented, when at least some of the listeners know that many references are available if a proper search is made. Occasionally we realize as we sit in audiences that all writers and speakers in our specialty, as in other vocations, do not always practice what they preach. It is not my intention to belittle in the least the efforts of scientific speakers or writers, but I do feel that almost anything can be overdone. After all, we must practice medicine in an everyday world. Because of these observations I will try in this so-called paper to mention some of the little things I do in everyday practice, little things which usually would not be mentioned in a paper upon any one particular subject. I make no claims that anything I discuss here is new or original. In a paper of this type where so many different and disconnected topics are discussed, it is impossible to give proper credit to individuals or to make specific references to the literature. I feel sure that each and every one of you have better ways of doing many of the chores that must be done in the daily routine. If telling what I do stimulates many of you to relate what you do, then the purpose of this paper will be accomplished.

To keep from rambling too much, a few general observations will be made at this time. Histories, carefully and properly taken by the physician himself are the most valuable aids we have in diagnosis. It takes years of professional experience to elicit complete histories. Such an important part of the care of the patient cannot properly be assigned to nurses or the office force. The value of the laboratory and x-ray are not underestimated, but these scientific aids should not be expected to think for us. Surgical procedures should not be classified as to whether they are conservative or radical, but rather as to whether they are advisable and adequate at any particular time in the individual patient. Local anesthesia should really mean anesthesia or it should not be used as such. Patients should not be made to suffer pain because improper methods of local blocking are used or because the various types of general anesthesia available are not given proper consideration. Often such drugs as amytal or evipal intravenously or avertin rectally, fill a gap between local and the usual types of inhalant general anesthesia. Post-operative care is often more important to the well-

being and the mental and physical comfort of the patient, than the operation itself. Painful and nerve-wracking after treatments commonly remain uppermost in the patients' minds, long after the anesthetic and surgical procedure are forgotten.

In an effort to conserve time and space, an attempt will now be made to present the material of the paper in outline form, considering in order; the eye, the ear and mastoid, the nose, the sinuses, the mouth and throat, the air and food passages, headaches, and neuralgias.

EYE

Chalazion: Injection of one drop of two per cent cocaine and adrenalin into the conjunctiva and cyst wall with a small sharp needle allows a cross-cut incision and curettment of the cyst without pain and with very little bleeding. Novocain around the cyst is then not necessary.

Tear sacs: Dilatation of the puncta, probing and irrigation of the sac can be done without pain if two per cent cocaine is injected by way of the puncta into each canaliculus and the sac itself. Instillation of cocaine does not give real anesthesia. Office treatments of chronic tear ducts commonly cause more discomfort and create more anxiety than operations on the same structures. In babies, ethyl chloride by mask at intervals during probing and irrigation is quick and safe. When an infected tear sac needs to be removed I prefer external dissection to any of the intranasal procedures. Local anesthesia with plenty of adrenalin gives a clear field and a painless operation. Very little after treatment is needed and the clinical results are good.

Evisceration vs. enucleation: In practically all instances except where malignancy is considered, evisceration has been my choice, since my experience with it in the army service. If incision is made at the limbus and the cornea excised without dissecting any of the conjunctiva there is no problem of delayed healing or exposed sclera. The operation takes less time, there is less secondary reaction as a rule, and the stump has been satisfactory for artificial eyes.

Hysterical or psychic blindness: History usually makes the diagnosis. Treatment must stress the art rather than the practice of medicine.

Injuries: In the treatment of intra-ocular foreign bodies the use of a giant magnet for removal often causes more damage than was done by the original injury. My choice is a small hand magnet used intelligently at the most logical site through a small incision after proper localization of the foreign body. In the badly injured eye which

appears rather hopeless, repairs and treatment may be done safely long enough to allow the patient and the family to become adjusted to the probable loss of the eye. Occasionally an apparently hopeless eye is saved by this watchful waiting and usually nothing is lost by waiting. Sympathetic ophthalmia is a very rare condition. It usually does not appear early and probably rarely develops in the absence of evident focal infection. Early or emergency evisceration or enucleation of the injured eye is rarely if ever necessary in my opinion to prevent sympathetic involvement.

Corneal ulcers: The dendritic or trophic types are probably much more numerous than is commonly believed. These conditions are often over-treated because the trophic nature is not suspected. Treatment with strong antiseptics or caustics interferes markedly with the healing. The water-cooled ultra-violet quartz tip seems of definite value. Incisions through the base of an ulcer, the Saemisch operation, with almost continuous drainage of aqueous fluid may influence favorably an apparently hopeless case. Insulin in small doses, three units every other day, seems of definite value in the treatment of most types of corneal ulcerations even in the non-diabetic individual. Insulin probably has some effect upon the healing processes apart from its effect on the carbohydrate metabolism.

Glaucoma: After consideration of and a certain amount of experience with the various operative procedures, I have found that in my experience best results have been obtained with iridectomy in the acute congestive types, and trephine in the chronic types. Retrobulbar local anesthesia has been very practical even in the very acute cases and rarely does general anesthesia need to be used. Eserine or any miotic is usually a snare and a delusion if used to replace operative procedures for permanent reduction of tension. I have never seen a good permanent result in buphthalmos after any type of treatment or operation.

Elevated retina: Multiple trephine openings under a conjunctival flap with a mild cautery at each opening is our treatment of choice. Results in a limited number of cases have been very favorable as to reattachment and preservation of useful vision, while other forms of treatment have been hopeless.

Refraction: Too many glasses are fitted even by oculists when the history and the small amount of hyperopia or myopia present would not suggest eye strain. Many poor results in the relief of eye strain in hyperopic astigmatism cases come about because the patients are not advised strongly to wear the correction for distance as well as near

work. Hyperphoria is a definite cause of eye strain and more often than is commonly suspected. Fitting of vertical prisms with or without the occlusion test produces better results each year in our practice. A fair number of young people during the growing years have a high hyperphoria develop in a fairly short time. It is probably anatomic in nature, since many of these young people have no refractive error.

Strabismus: In the convergent type in children with a moderate error, recession of the internal rectus is the operation of choice when any operation is advised. Advancement is deferred and may not be necessary if refractive errors are corrected and orthoptic exercises are carried out.

EAR AND MASTOID

External otitis: Fungi as a cause of external otitis with itching, pain and poor hearing have been found much more commonly during the past five years. The material in the canal simulates wet paper, is hard to remove, and very resistant to treatment. It often invades the drum membrane and the skin of the canal. All aqueous solutions are contraindicated. Thymol and cresatin combination has proved to be the best solution in my experience. Three per cent salicylic acid in seventy per cent alcohol is of definite value. Home treatment of these cases is not practical, because careful removal of the material is essential to good result. Incision is rarely necessary or advisable in furunculosis. Careful cleansing, cresatin packs and heat are the most satisfactory steps in the treatment. Most of the pain is secondary to cellulitis and chondritis, not to the collection of pus. Cough, often of the severe spasmodic type, may be secondary to a dry external otitis as a reflex phenomenon.

Middle ear: In acute middle ear infection cross-cut incision rather than paracentesis of the drum membrane with general ethyl chloride anesthesia is a routine. So-called local anesthesia is practically never attempted. In chronic suppurative otitis with a large posterior perforation, dry cleansing followed by iodine powder from blower is the treatment of choice. The presence of polyps indicates a favorable prognosis for a dry ear after their removal and dry treatment. In attic suppuration with perforation in Schrapnel's membrane, local treatment has been very discouraging. The Bondy operation, a modified radical with removal of the upper half of the annulus and preservation of the drum membrane and ossicles, offers the best chance I know of for a dry ear and preservation of hearing. In my opinion, many more modified or complete radical mastoid operations should be advised than are now done for preserva-

tion of hearing, if careful local treatment over a sufficient length of time makes no progress. In chronic discharging ears too much conservatism is really very radical treatment if the future of the hearing is considered.

Mastoiditis: Early operation is usually not necessary. Rarely should a simple mastoidectomy be done under ten days to two weeks from the beginning of acute otitis. Mastoid pain and tenderness during early days of otitis are of no importance. Complications are much more likely after early operations than late ones. Patients practically never develop meningitis or other serious complications while under the observation of the otologist. The meningeal symptoms often begin with or shortly after the original ear symptoms. Lateral sinus thrombosis, erysipelas and blood stream infections are much less common complications when mastoidectomy is delayed. X-ray studies play a small part in determining the real pathology. They are of definite importance in determining the size of mastoid, the amount of pneumatization, and the position of the lateral sinus. Mastoidectomy in acute infections should be spoken of as a complete rather than a simple operation. The complete operation insures adequate surgery in any particular case. Petrositis and other complications may often be prevented or easily drained by the complete original operation. It is not necessary for any surgeon to have his so-called quota of facial nerve injuries if proper care and enough time is taken during each operation. In infants and small children the presence of suppurative otitis media with high temperatures often makes the differential diagnosis between mastoiditis and pneumonia very difficult. A leukocyte count of 30,000 or 40,000, or over certainly suggests pneumonia rather than mastoiditis even when the general physician or pediatrician reports the chest apparently negative. Packs in the simple or complete mastoid operation are practically never used in our practice, even when large areas of sinus and dura are exposed. Most of the wound is closed and a rubber tube is used for drainage. Quicker healing, much less pain and discomfort for the patient and better cosmetic results have proved the case for years of tubes over packs.

Complications: Surgery in suppurative meningitis has in my practice rarely had any effect upon practically a 100 per cent mortality rate. In lateral sinus thrombosis, transfusions of whole blood have been a great help. Ligation of the jugular vein is done less frequently than formerly, but still is advised in individual cases. In my limited experience with petrositis a tract has been found leading either posteriorly or above the labyrinth in pneumatic type of bone. In three cases simple

drainage through these tracts has brought about recovery and preservation of hearing. As yet, I have not done a radical mastoidectomy to drain a petrous abscess, but such a procedure may be necessary at any time.

Meniere's syndrome: Attacks of vertigo of a rotation type, with pallor, nausea and vomiting when due to real vascular pathology either in the labyrinth or somewhere central to it, will usually be accompanied by some loss of hearing or tinnitus. As a rule, there is definite evidence of a damaged hearing mechanism before the attacks begin. Vertiginous attacks with all associated symptoms except tinnitus and loss of hearing are probably vasomotor in origin. These vasomotor syndromes, I am sure, are much more common than is usually believed. They appear in the patient who is subject to migraine or other allergic or vasomotor disturbances and are rarely seen by the otologists except between attacks. The individual attacks are generally of short duration and the entire disability at any one time rarely extends over more than a day or two with intervals of perfect health. As a rule, the patients are seen at home by the general physician or internist and the usual diagnosis is a heart attack or acute indigestion. Rotary nystagmus of the labyrinthine type has been observed but it persists for only a few seconds at a time, usually after a sudden change of position. These attacks of vertigo and associated symptoms of vasomotor origin may appear before or during an attack of migraine or quite commonly they may replace the periodic migraine syndrome for varying lengths of time. Study of the patient for possible food sensitivity is a reasonable procedure. In the treatment of so-called Meniere's syndrome the reduction of sodium in the diet and the giving of ammonium chloride by mouth have given encouraging results in some of our patients. This type of treatment has been used mainly in the vascular type of disease but may also be of help in the vasomotor type when such attacks are prolonged.

NOSE

Rhinitis: The color of the nasal membrane is of definite help in quickly suggesting the probable type of rhinitis. A pale membrane certainly suggests an allergic or endocrine etiology, especially if the history is suggestive. Infection, of course, may also be present with such an appearance, but is usually of secondary importance. Ionization in the allergic nose has not been used in our practice.

Polyps: The association of many polyps with a pale boggy nasal membrane should suggest an allergic or vasomotor rather than an infective basis. The history will usually bear out this assumption. When polyps are removed in the presence of a pale

membrane I leave the sinuses entirely alone unless some of the ethmoid cells are evidently broken down and necrotic. The patients then report for routine observation in the office for the removal of small polyps which were missed or have developed subsequently. At each office treatment pale boggy spots in the middle meatus which are potential polyps are touched with trichloroacetic acid. With such a follow-up treatment many of these patients are kept comfortable for years without further operations. Often sinuses which were evidently quite involved will show marked improvement clinically and after x-ray studies, although they received no direct treatment. Hydrochloric acid by mouth is prescribed purely as a trial after removal of the polyps; allergic study is advised; and the patient warned of the possibility of asthma developing later in life. Fairly often we see a pale, allergic nose improve suddenly as bronchial asthma develops.

Submucous resection of the septum: Fewer resections are done in my practice than formerly. Rarely is it advised in the presence of a pale membrane until the patient has been carefully watched and studied for a long time. Usually the operation is of little value in progressive deafness. So-called pressure headache which can be relieved permanently by submucous resection is probably a mythical condition. Local nose treatments set up vasomotor changes in the brain. Temporary results obtained in such cases by the submucous resection operation usually appear in the patient with the vasomotor type of headache and the relief may be credited to shock therapy. Postoperative results after a submucous operation are much better if the tonsils are gone.

In the adult, injection of a small amount of novocain and adrenalin far forward in the skin allows one to approach the anterior border of the cartilage for removal or refracture. The usual mucous membrane incision is always posterior to the anterior obstruction. The dissection from the skin incision to the cartilage is done with a sharp knife and conjunctival forceps rather than an elevator to prevent tearing of the membrane. Suturing of this incision is easy and practical at the completion of the operation. In children with bad anterior deflections the same incision is made, the mucous membrane is elevated on one side, the cartilage is incised at the angle of the deflection and from the vomer, rotated into the midline and held in place by sutures through the septum and columella. No cartilage or bone is removed. Splints are used postoperatively purely to control bleeding between the flaps. They will not hold a deflection if it has not been mechanically corrected. If there are no tears in the mucous membrane,

careful incisions are made on one side, to allow drainage and prevent hematoma.

Broken noses: In most instances replacement of fractures can be done under local anesthesia in the adult without pain and with very little bleeding. Proper blocking is essential. Splints will not help unless fractures are really reduced. In my experience casts or splints on the outside are useless. Properly replaced fractures will stay in place.

Fractured faces: Where the malar bone is pushed in, and the external and anterior walls of the antrum are fractured, replacement from within the antrum is our method of choice. Incision through the mucous membrane is made as for the external antrum operation. As a rule comminuted fragments can be removed easily and elevators can be introduced into the antrum cavity for replacement of the fractures. A window in the inferior meatus for drainage and the absence of packs in the antrum help to prevent secondary infection. Packs will not usually be needed to hold the fractured bones in position.

Ozena: In children suprarenal cortex concentrate by mouth probably has a beneficial effect in many cases. Such treatment in conjunction with nasal oils has been used for years by some very good men in our specialty. My experience is very limited.

SINUSES

Antrum irrigation: The straight trocar in the inferior meatus can be tapped with the nasal speculum rather than pushed into the antrum with much less pain and shock to the patient. Such a procedure is especially practical where thick bone is present. Mechanically, this simple procedure is as sensible as tapping a nail rather than pushing it. In attempting to irrigate an antrum through the natural opening the procedure is much less difficult and more likely to succeed on the side opposite a deflected nasal septum. In such a case there is usually a roomy middle meatus and very little trauma is caused by even unsuccessful attempts.

Antrum operation: Local anesthesia for intranasal antrum surgery should be as complete as for the external operation. Injection of novocain and adrenalin into the anterior tip of the inferior turbinate, over the naso-antral wall and especially at the anterior angle, will eliminate pain and troublesome bleeding. Cocainization of the sphenopalatine ganglion is of importance. An oval chisel with the proper curvature and a cutting surface in opposite directions will usually insure a good opening with very little trauma because the fractured bone is actually removed by the chisel. Only a very small pack is needed to control bleeding and often none at all. In children a small plain

rubber tube without a flange introduced with an obturator is a great convenience for the first three or four days after the small opening is made into the antrum. The cavity may be irrigated easily and painlessly through this tube even in the nervous child. Very often a large antro-meatal window with direct packing of the cavity for four or five days will eradicate polyps and thickened membrane even in cases in which an external operation seemed necessary.

Acute sphenoiditis: This is the only type of acute sinus infection that should offer any real difficulties in differential diagnosis. The pain may be mostly frontal, or in and around the eye, but without frontal tenderness. The difficult nasal breathing, the effect on the resonance of the voice, and nasal discharge so common in other forms of sinusitis may be entirely absent preceding sphenoid symptoms. In my experience, a high leukocyte count, often 20,000 or more, has been fairly common in acute sphenoid infection and very rare in involvement of the other sinuses. Stereoscopic lateral x-ray films are of value. Patients with acute or subacute sphenoid infections are likely to appear in our offices for refraction because of the headache and lack of nasal symptoms. In the diagnosis and treatment of acute sphenoiditis a long straight trocar similar to that used in the antrum, but longer, is generally tapped through the anterior wall. Pus if present can then be irrigated easily through the natural opening. One, two or three such irrigations will often suffice for a complete clinical result in acute infections. If the natural opening is easily accessible, irrigation through it may be the treatment of choice. The natural opening is best left alone because after enlargement it tends to close rapidly and often completely. Its enlargement should be reserved for the chronic cases and then the whole anterior wall will probably have to be removed to give a good result.

Frontal sinusitis: In acute inflammation or infection bed rest for a few days is of much more importance than office treatments. A rasp is practically never used in the nasofrontal duct. So-called vacuum frontal sinus pain is probably a mythical condition. External frontal sinus operations are not commonly necessary, at least in my experience. When such an operation is really necessary, however, the removal of only a part of the sinus floor is usually inadequate, and more radical as far as the patient's future is concerned than a complete operation with possibly the so-called Lynch technic.

General remarks: In chronic sinusitis headache is usually not a major symptom, but it is a common complaint during acute exacerbations. Sinus surgery of any kind, as a last resort in an obscure

case, is not reasonable nor advisable. History and physical findings in acute or chronic sinus infection are, as a rule, too definite for the diagnosis to be confused. Sinus surgery would not be in such bad repute today if more thought had been given during the years to differential diagnosis and less to operative procedures.

MOUTH AND THROAT

Angina: Ulceration of gum tissue is often due to Vitamin C deficiency, especially in young people with good teeth. Such cases are commonly over-treated for months as Vincent's angina or pyorrhea, whereas fruit juices often constitute the only treatment needed. The white blood count and differential blood count are important in any peculiar angina.

Tonsil infections: In acute tonsillitis real chills with high fever should suggest the possibility of a blood stream infection by way of the jugular vein. In chronic tonsillitis the diagnosis depends almost entirely upon the history; the size and appearance of the tonsils are of little importance. Tonsil infection does not cause feeling of a lump, band or tightness in the throat, which symptoms are so common in the nervous individual. These symptoms will be the same when the throat is clean.

Lymphoid nodules: In children, these nodules on the pharynx or in the nasopharynx rarely need to be removed and often respond best under iodides and proper vitamins. In adults small nodules on the pharynx and in the tonsil fossa are usually of no importance and rarely need removal. If they could not be seen by the patient and other casual observers, they would not be considered.

Peritonsillar abscess: The injection of a small amount of novocain in the mucous membrane allows a longer and more painless incision to insure better drainage. The needle may localize abscess or defer incision.

Tonsillectomy: After the injection of the pillars, better anesthesia is effected if novocain is injected posteriorly to the capsule as the tonsil is lifted with the tenaculum from the fossa. The free border of the lingual tonsil needs a separate injection because of the separate nerve supply.

Adenoidectomy: Real local anesthesia is difficult. Cocainizing the nasopharynx and the sphenopalatine ganglion region through the nose is of value. The only way to check poor surgery and to control bleeders is by direct inspection of the nasopharynx by retracting the soft palate. Adenoidectomy is commonly one of the poorest operations we do.

Uvula: The uvula is a vestigial organ and prob-

ably should be removed more often than it is because of its relation to throat infections, especially since no harm seems to result from its removal.

Harelip and cleft palate: In this condition the lip is closed as soon after two weeks as the general condition permits. No wires or plates are used on the anterior cleft except in a very wide cleft or protruding premaxilla. Closure of the lip molds the alveoli with better cosmetic results than plating. Closure of the posterior cleft is made at about eighteen months or just before the child begins to talk. No plates or wires are used. An operation must relieve the tension to get good results.

AIR AND FOOD PASSAGES

Larynx: A direct view with the laryngoscope is important in the diagnosis of the cause of hoarseness or dyspnea. An indirect mirror view usually cannot be trusted. Proper local anesthesia for laryngeal growths must include the lower surface of the cords and the subglottic space to control spasm and prevent damage by punch. If malignancy is suspected, biopsy should not be done unless the patient and physician are prepared to do laryngofissure or laryngectomy. If the patient goes elsewhere for diagnosis and treatment, trauma from the biopsy obscures the laryngeal picture. The Haslinger laryngoscope has practically replaced the Kilian and Lynch suspension in our practice. For laryngitis we give codeine, grs. $\frac{1}{4}$ or $\frac{1}{2}$, according to age. We give it alone, and not in useless cough mixtures, to control coughing at night, which we consider as important as rest for the voice in the daytime.

Tracheotomy: The Mosher life saver or the bronchoscope in place relieves emergency and allows tracheotomy to be done carefully as a real surgical procedure. Tracheotomy delayed too long in the small child with dyspnea, after a foreign body removal or in infectious tracheobronchitis, often spells disaster which could have been prevented. In such instances conservative watchful waiting is really radical treatment. Suction with saline or other liquids in the canula at frequent and regular intervals helps to prevent descending tracheobronchitis and formation of plugs. Such frequent regularity often means every twenty or thirty minutes, day and night, in the small child with infective tracheobronchitis. A high fluid intake is of great importance.

Bronchoscopy: In children with bronchial foreign bodies we do not usually choose to give an anesthesia. Occasionally in the older, strong child in good general condition with good lung aeration,

general anesthesia is of distinct advantage and advisable. A short procedure under anesthesia with removal of the foreign body is often better judgment than a failure after a long procedure in a fighting child because of no anesthesia. As a rule, however, general anesthesia in the infant with bronchial obstruction is dangerous and not advisable. Trained help for real team work is of great importance. The age and condition of the patient must determine the time of bronchoscopy, if good results are to be expected. Procedures for removal may easily be more dangerous than the sojourn of the foreign body. Bronchoscopy for foreign body is usually not an emergency procedure. Time taken to study the patient and type of foreign body is well spent.

Esophagoscopy: General anesthesia even in small children is often advisable and safe, if there is no lung involvement or dehydration. The removal of pointed foreign bodies, such as safety pins, is a dangerous procedure. The closure of a safety pin in a child is often impossible, and the end result is often better if such a foreign body is allowed to pass into the stomach without too much manipulation. We have found in our practice that no foreign body which reached the stomach failed to go through the gastro-intestinal tract without damage.

Acute chest: Physical findings as a result of a foreign body are much different than after infections. In early bronchial involvement, foreign body ball-valve emphysema gives peculiar physical findings. The report from x-ray studies often suggests that the clearest lung is on the side of the foreign body. Absent breath sounds on this clear side usually make the diagnosis. General medical men and pediatricians are not familiar with such chest findings. The bronchoscopist should use the stethoscope routinely.

HEADACHES

The differential diagnosis of periodic headache is difficult in ambulatory or office patients because of the prevalence of vasomotor, allergic or migraine types. Such headaches are confused with those due to eye strain, nasal obstruction and sinus disease. The history, personal and family, is of the greatest importance in differential diagnosis.

Objective evidence obtained by physical examination, x-ray and laboratory studies often confuses the diagnosis if it is given precedence over the history. Vasomotor headaches of the allergic or migraine type are characterized by periodicity with intervening periods of good health. Cortical symptoms such as scotomata, hemianopsias, paresthesias and aphasias do not appear periodically in

any but vasomotor syndromes. Migraine or some type of periodic vasomotor or allergic headache, is much more common in children than is generally believed. Gastro-intestinal symptoms are much more pronounced in childhood. Fever is commonly present even to high levels during the first twenty-four hours. Because of abdominal distress, vomiting and fever, appendicitis or food poisoning is the usual diagnosis. The periodicity of a similar symptom complex with intervals of good health usually makes the diagnosis. Spontaneous cures in migraine or any allergic or vasomotor headache occur more frequently than do cures from other treatments and operations combined. This statement is made after careful observation and classification of headache patients in private practice during the past sixteen years. Temporary relief from vasomotor headache may be due to shock therapy after nasal, sinus, abdominal and pelvic operations. Skin tests for food sensitivity and proper elimination diets probably offer the best chance for permanent relief; at least reports from the literature are very encouraging. As yet, in my experience, relief from dietary measures has not extended over a long enough period of time to be considered permanent.

NEURALGIAS

The classification of facial neuralgias from the literature is confusing. We find many long names without convincing clinical or pathologic support for the many different forms. Sphenopalatine and vidian syndromes commonly appear in patients with migraine or allergic tendencies. Attacks of pain may be a result of local tissue reaction in ganglion or nerve sheaths of vasomotor origin. Permanent relief after cocaineization, injection of the ganglion, or treatment of or operation on the sphenoid, is extremely rare in my experience, although temporary improvement is common. Rarely, I feel, should sphenoid surgery be done to relieve neuralgia unless there is sufficient evidence of infection to justify the procedure regardless of, and not because of, the attacks of pain. Pain in and around the ear and mastoid is commonly secondary to poor dental occlusion. Tenderness over the mandibular joint is an important diagnostic finding. Proper dentistry will do more to relieve many facial neuralgias than any amount of nasal treatments or surgery.

SUMMARY

An attempt has been made in this rambling paper to pay some attention to the routine of everyday practice in our specialty. Again may I repeat that nothing was mentioned or discussed here with the idea that it was new, original or better. My

main objective in telling some of the things I do from day to day was to stimulate many of you to give us the benefit of your experiences. The conversations of hotel room and lobby have been transferred to the meeting room for a limited engagement.

408 Davidson Building.

PRESENT TRENDS IN PULMONARY DIAGNOSIS AND THERAPY*

CLINTON E. HARRIS, M.D., Grinnell

The frontiers of medicine never disappear; they merely change their contours. By a direct frontal attack during the past forty years, the diarrheal diseases of infancy and the acute infections of early childhood have been largely abated or modified; but we find ourselves confronting the rising menace of cardiovascular, degenerative and malignant processes. The campaign against tuberculosis has not been won, but it has been demonstrated beyond reasonable doubt that it will yield to administrative control. We cannot, as yet, eliminate tuberculosis from the scene; but we are justified in shifting our attack more vigorously to the front of the nonspecific respiratory infections.

There has been no greater leveling influence in the field of pulmonary diagnosis than that caused by the introduction of the x-ray. It has measurably reduced the gap existing between the general practitioner and the specialist in lung diseases. It is an outstanding fact that, given a good chest film, the family physician can today diagnose many cases of pulmonary tuberculosis that would escape the physical tests of experts. It is only necessary to stipulate that he who reads the plate must know how to interpret it. Two more items and we are done with tuberculosis. Have a care about reading mortality tables. Tuberculosis is listed ninth in the causes of death. It is still the leader between the ages of fifteen and forty. We should also remember that many cases formerly adjudged hopeless are now amenable to surgical treatment.

In considering nonspecific respiratory infections I have three principal objectives: to look upon the respiratory tract as a unit; to secure more serious consideration for the common cold; and to modify our hopeless attitude toward such suppurative processes as lung abscess and bronchiectasis. If we would start our treatise properly we must first mention that much discussed, but poorly appreciated, topic, the common cold. No one dies or becomes seriously ill from an uncomplicated cold. However, under prevailing methods of treatment many complications occur. Such will be the rec-

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

ord in the future unless a specific treatment is discovered or doctors carry on a more vigorous campaign of education. While radio and press broadcast "cures" to a gullible public, there are still too many doctors who lack the courage to tell their patients that we have no treatment which assuredly shortens cold infections, save early and adequate rest in bed. I think it quite possible to show that the common cold is frequently the immediate forerunner of sinus disease, chronic bronchitis, bronchiectasis, lung abscess and a goodly proportion of our pneumonia deaths. It is perfectly obvious that in dealing with nonspecific infections we are confronted by various bacteria and mechanisms. It is not possible to develop a uniform sequence of cause and effect. Enough is known, however, to justify protest against any doctor who looks upon a respiratory infection as a passing trifle.

Wasson,¹ of Denver, has shown by extensive serial x-ray studies that paranasal sinus disease is frequently found in infancy. His conclusions are based on a large group which was rayed annually for seven or eight years. Many of these cases exhibited unmistakable evidence of progression unless actively treated. There was noted a frequent association of common colds, bronchitis and tonsillitis with sinus disease. Where such infections were frequently repeated chronic sinus disease often developed. This chain of events caused a clinical complex with characteristic x-ray findings which Wasson designated bronchosinusitis disease. Its chief x-ray hall mark is marked proliferation of connective tissue at the hilum of the lung, with relatively little lymphatic involvement. In the more chronic cases there develop strands of connective tissue extending toward the bases or even into the primary lobules, with more or less accentuation and distortion of the lung markings. This commonly marks the stage of irremediable damage. Such patients are afflicted with recurring respiratory infections every winter and are permanently substandard risks. Some are simply labeled chronic bronchitis while others, due to the intervention of influenza or pneumonia, suffer further damage to the bronchial walls and pass over into the domain of frank bronchiectasis. Morse² believed that chronic interstitial pneumonia was the most common cause of bronchiectasis in childhood; but should we not ask what causes the pneumonia? Mullin³ felt that measles and whooping cough were among the worst offenders in the etiology. Experimental work by Ryder and himself definitely showed direct connection between the lymphatic tissue of the upper respiratory system and that of the lung hilum. It is fair to state that the association of bronchiectasis and

sinus infection is practically 100 per cent. Little or nothing is to be gained at this stage by treatment of the sinus infection because the lung damage is permanent.

Estimates as to the duration of immunity following cold infections vary from three to six months. As a practical working thesis it may be stated that patients do not have "three or four colds during the winter" or "go from one cold right into another." Such patients, for the most part, are the victims of chronic nose and throat infection and cannot be handled successfully without the help of the otolaryngologist. It is not asserted that all patients with chronic upper respiratory infections develop chronic bronchial disease. It is suggested that such a catastrophe may be prevented by a consulting otolaryngologist.

Recently Sewall,⁴ of San Francisco, has developed an interesting view regarding the relation of colds and sinus disease. He asserts that the cold virus must be associated with streptococci to produce a cold infection. He believes that the streptococcus viridans represents the dormant stage of chronic sinus infection. He sharply distinguishes true from false colds. The latter, he believes, are due to chronic sinus disease and confer no immunity. Such patients, in his opinion, may "catch" cold without outside contacts and are the carriers of the common cold organism, whether it be virus or streptococcus. Dochez continues his monumental research on colds and guardedly holds forth hope that a specific vaccine may be developed in the near future. Such vaccines as we have probably do not lessen the incidence of true colds, but they do appear capable of modifying them and lessening the complications. Until a specific treatment is developed it is important that we attach due significance to colds and stop thinking of them as simple clinical entities.

A rather common error is that of regarding bronchiectasis as a rare disease. The fully developed lesion presents one of the saddest pictures in medicine. The patient may be likened to a walking cesspool who is a curse to both his associates and himself; but all is not dark. There are varying degrees of invasion and we may assume that fetor is not pronounced until marked stasis of bronchial secretions has occurred. Jackson and MacCrae⁵ assert that early bronchoscopic aspiration may prevent the development of chronic bronchiectasis. Again, it seems certain that a large group of patients at the onset suffer from unilateral disease. While many cases seemingly date from an attack of pneumonia or influenza, a large number stand for the final result of a long continued sinus infection. It is not maintained that all cases of sinus disease develop serious lung com-

plications. I merely insist that the sinus patient needs the combined care of specialist and family physician if he is to have the highest assurance against permanent injury; nor should we forget that such care must often be given in infancy. As a practical suggestion I would say that we must not rest content if the child who has submitted to removal of tonsils and adenoids continues to cough or to have a nasal discharge. It is really time that some of the high-powered enthusiasm which we have directed against diseased tonsils be diverted to other parts of the respiratory tract.

The present therapy of bronchiectasis gives a somewhat improved prognosis. The use of contrast mediums has aided better diagnosis of chest films. They are often helpful in differentiating bronchiectasis and lung abscess. It is known that bronchiectasis may be diagnosed in its earlier stages and that the process may be arrested by suitable treatment of the sinuses and bronchi. The bronchoscopic instillation of iodized oil and organic antiseptics has produced good results. In other cases the treatment of strictures and granulations has provided essential drainage. Very recently Berck and Harris⁶ of New York have reported surprising benefit following the use of deep therapy in advanced cases. Finally, let it be noted that when the disease is limited to one lobe, it may be treated by lobectomy without undue risk. Probably less should be promised regarding similar treatment of lung abscess.

There is still controversy over the relative importance of embolism and aspiration in the etiology of lung abscess. In either case the patient should not be left to his own resources. Here, too, we find the situation gradually becoming more hopeful. King,⁷ of the Massachusetts General Hospital, in a report on 210 cases, thinks it reasonable to assume that two-thirds were caused by access of septic material from the upper respiratory tract; fifty-five per cent followed nose and throat operations; while nine per cent followed operations under general anesthesia. It is interesting to note that, as compared to another group in the preceding fifteen years, the prospect of spontaneous recovery under conservative treatment had improved fifty per cent; such recoveries were about twenty per cent. While bronchoscopic treatment was of little benefit in King's group, a more hopeful note comes from other clinics. It may well be concluded that bronchoscopic examination is indicated in practically all cases of suppurative lung disease. It is essential for elimination of foreign bodies in etiology, for differential diagnosis of abscess and bronchiectasis, and for the localization of inflammatory stenosis. In general, the tendency is to grant the patient two or three months' treat-

ment by rest, postural drainage and bronchoscopic aspiration. If such measures fail to produce cure they at least reduce sepsis and prepare the patient for surgical drainage at a later date. Conservative treatment should continue so long as signs and sputum output show improvement. A few cases heal spontaneously after prolonged suppuration. The use of arsphenamine preparations may prove very helpful if used early in the fusospirochetal group, according to Kline.⁸ This report seems to lack confirmation. Pneumothorax has likewise failed to produce good results and undoubtedly predisposes to empyema. Unroofing abscess cavities has produced cure but is a tedious process. While perfectly willing to concede the occurrence of embolism, I have yet to see a case of lung abscess that had a clean mouth. No more have I seen a case of bronchiectasis that had a clean nose.

A brief comment about atelectasis is in order. Massive collapse of the lung, with the terrific negative pressure and mediastinal pull which follow, may cause a major crisis. To equalize pressure the use of artificial pneumothorax is frequently justified. To use it as the sole means of treatment is definitely irrational unless bronchoscopic examination fails to show obstruction. Atelectasis is frequently the predecessor of bronchiectasis and lung abscess. The mere institution of pneumothorax cannot assure the patient against the development of suppurative disease, if obstruction is the cause. Pneumothorax seldom relieves lung abscess according to Giese,⁹ of Colorado Springs, and is practically worthless in bronchiectasis. As King⁷ has emphasized, while tuberculosis calls for rest of diseased tissue, the essential treatment in suppurative disease is drainage. All too often such procedures as pneumothorax and phrenic nerve paralysis merely aggravate the existing obstruction. It may be taken as a fairly safe rule that suppurative lung disease should be drained either internally or externally and only rarely by intermediate measures. The rapid advancement of thoracic surgery makes it imperative that the patient, no matter how desperately ill, be granted surgical consultation. He may be too ill to undergo radical drainage; but rarely, if ever, will bronchoscopic examination be contraindicated.

I should be inconsistent with my text if I failed to mention another phase of the subject. In the majority of cases, lung abscess gives a history of critical onset. It would be erroneous to make the rule universal. I cannot believe that all cases of either abscess or bronchiectasis start from large beginnings. As a sequel to acute respiratory infections, localized abscesses are frequently caused by granulations or stenosis. Such patients will continue to raise sputum long after the febrile

stage has passed. If such sputum is negative for tubercle bacilli, bronchoscopic examination is definitely indicated. This is especially true following pneumonia and influenza. It must be remembered that a certain small group of lung abscesses defy all efforts to elicit a history of stormy onset. Apparently such cases develop insidiously from prolonged aspiration in patients with dirty mouths.

It was with malice aforethought that I avoided the form of a well documented and classified report in preparing this paper. So far as the non-specific entities are concerned I do not wish to separate them; rather do I wish to scramble them. We must think of the respiratory tract as a unit and emphasize the very definite interrelationship of the common cold, sinus disease, chronic bronchitis, bronchiectasis and, to a lesser degree, lung abscess. By general consent acute rhinitis is the most common cause of sinus infection. Whatever the conditioning factors, such as diet and environment, the child acquires his first sinus infection from a cold. Frequent recurrence of colds leads to chronic sinus disease. This in turn predisposes the patient to frequent attacks of bronchitis which may, and frequently do, establish a progressive bronchiectasis. The common cold is the immediate forerunner of lung abscess in a small group. Nor should we overlook the avoidable pneumonia deaths which are the direct result of neglected colds. This grisly group is, for the most part, descended from the common cold. There can be no assurance that their numbers will decrease until we have made a more vigorous attack on the parent stock.

In 1929 Wasson stated that bronchosisinusitis was equal in importance to tuberculosis. Considered in terms of gross morbidity I have little doubt that today tuberculosis runs a rather poor second. I repeat my first statement: the frontiers of medicine never disappear; they merely change their contours. For every problem solved, another greets us with a ringing challenge. While we may well flatter ourselves over the steadily declining mortality rate of tuberculosis, we cannot ignore the challenge of the nonspecific respiratory infections.

SUMMARY

We must regard the respiratory tract as a unit. The importance of the common cold has not been appreciated. It is often the precursor of chronic bronchitis and suppurative lung disease. This group cannot be treated properly without assistance from the otolaryngologist. Tuberculosis is yielding ground and, in terms of gross morbidity, is less important than the nonspecific respiratory infections. Their diagnosis in infancy is all important.

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THE FREQUENCY OF SYPHILIS AND NEUROSYPHILIS IN CHRONIC ALCOHOLISM*

ROBERT A. STEWART, M.D., Independence

Syphilis is a chronic infectious disease caused by the *Treponema pallidum* contracted by direct or by mediate contact with the specific lesions or their secretions, or transmitted by infected parents to their offspring during gestation. It is characterized by a great variety of local lesions, many of which are due to a concentration of the spirochetes in the parts affected.

While the origin of syphilis is not known, it seems to have existed from prehistoric times, and yet, it did not attract public attention until the fifteenth century when it apparently began to occur in epidemic form. That it was imported to Europe from America by the sailors of Columbus is doubtful, but it is known that the epidemic of the fifteenth century followed the disbanding of the army of France in 1495. The Veronese poet-physician originated the name in a poem in which the hero was a shepherd, Syphilus. About the middle of the nineteenth century, syphilis, gonorrhea, and chancroid were clearly differentiated. In 1905 Schaudinn and Hoffman announced the discovery of the *Treponema pallidum* as the etiologic agent of the disease, and in 1906 Wassermann, Neisser, and Bruck devised the method of serum diagnosis.

Accurate knowledge of visceral syphilis dates from 1849 and its rôle in aneurysm in 1877. Es-march drew attention to the frequency of parietic dementia in people suffering with syphilis as early as 1857 and expressed an opinion that paresis and tabes were essentially syphilitic processes.

Syphilis is prevalent throughout the world, and some statisticians claim that ten per cent of our population suffer with the disease, while twenty per cent of all hospital patients give evidence of being

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infected. It is no respecter of sex, but probably is more often found in the male. Congenital syphilis is not so much a matter of inheritance but of intra-uterine infection. Colle's law and Profeta's law are now obsolete. Sooner or later children born of syphilitic parents will give a positive Wassermann reaction. The more recent the infection in the parent the greater is the danger of abortion. There seems to be no reason why the disease cannot be transmitted for four or even more generations, but too many difficulties are involved to prove or disprove this statement.

Since no part of the body is immune to the disease, I shall not attempt to recount the pathology or symptomatology of the disease except to state that tertiary symptoms sometimes appear early in the disease, while again years elapse before their occurrence. It has been found that there are frequent positive serologic findings early in the disease, and, while the meningeal involvement usually abates, serious damage to the central nervous system may occur. It is, however, remarkable that skin involvement is rare in those who later develop grave nervous symptoms.

While it is generally found that about ten per cent of the first admissions to the male side and two per cent of the admissions to the female side of state institutions are cases of neurosyphilis, it was decided at Independence to do routine blood and spinal fluid tests on all first admissions of inebriates for one year. The result is as shown in the following table:

	Male	Female	Total
Inebriates	116	4	120
Blood Wassermans	4	0	4
Spinal Fluid Wassermans..	2	0	2
Spinal Fluid and Blood Wassermans	1	0	1

Note: Nine not included as tests were not completed.

Case 1 had 34 cells, enlarged heart, atrophy of one testicle, unsteady gait, positive Romberg sign, knee jerks hyperactive, sluggish pupils, and very ironed out expression. He was not psychotic. His physical failure was rapid but he was paroled at the request of his relatives.

Case 2 had 24 cells, marked tremor of extremities, unequal pupils of Argyll-Robertson type, slurring speech and positive Romberg sign. He was not psychotic. His blood was negative.

Case 3 had 72 cells, pulse 120, hypertension, liver enlarged, fine tremor of arms and legs, gait ataxic, and positive Romberg sign. He was not psychotic.

It is seen by the above table that of the 120 first admissions, 3.5 per cent suffered with blood syph-

ilis and 2.5 per cent had neurosyphilis. It is presumed the case having a negative blood Wassermann reaction was the result of treatment. An interesting fact was that no women inebriates suffered with either blood or neurosyphilis. It, however, has been my experience that syphilis is much less common in the female sex, and that their symptoms are much less severe. Considering the environment of the chronic alcoholic individual, it is surprising that so few patients suffered with syphilis. That alcohol may have caused some blood Wassermann reactions to be negative is a possibility, but it is true that those found negative rapidly responded to treatment.

SUMMARY

Syphilis is an infectious disease of obscure prehistoric origin. It is no respecter of race, sex, or social standing. It is unfortunately infectious in utero and this gives it "hereditary aspects." A series of 120 chronic alcoholic patients was run, with blood and spinal fluid tests, without selectivity of cases, to prove or disprove statements that a high percentage of chronic alcoholic individuals were suffering from neurosyphilis. Of these cases 3.5 per cent had positive blood Wassermann reactions, 2.5 per cent had positive spinal fluid Wassermann reactions; one of the three positive spinal fluid reactions had a negative blood Wassermann reaction. The total incidence of syphilis serologically is 4.2 per cent. Sampling of patients comes from a typical midwestern farming state.

CONCLUSION

1. The incidence of syphilis in chronic alcoholism is no higher than the general incidence, and, in my series, less than half of the generally accepted incidence in the general population.

2. Spinal fluid tests should be made in diagnosing syphilis regardless of the blood reaction; one case in the series had negative blood and positive spinal reactions.

3. A longer series of cases might show different results, but the unselected sampling of cases from all walks of life would indicate the probability of essentially the same results.

4. The question of whether syphilis makes for more alcoholic patients or whether alcohol makes for more syphilitic patients is still unanswered; this series tending to show that alcoholic individuals may be afflicted with syphilis less often than others.

Discussion

Dr. Roscoe D. Smith, Clarinda: I have been honored with a request to discuss Dr. Stewart's very interesting paper. Such a paper represents a considerable amount of work and Dr. Stewart should be commended on his effort to find out for himself the

facts concerning the popular belief that chronic alcoholism and syphilis are associated evils. I was struck with the fact that his series of 120 unselected cases shows the absence of syphilis in female inebriates. To satisfy my own curiosity we checked inebriates admitted to the Clarinda State Hospital from January 1, 1936, to May 1, 1937, which included sixteen women and 126 men, a total of 142 patients. Blood Wassermann tests were done routinely on these patients and spinal Wassermann tests were performed on those giving positive blood reactions and on others having neurologic findings indicative of syphilis. Three of the women gave positive blood Wassermann reactions, and one a positive spinal fluid, making the incidence of blood syphilis in women inebriates 18.9 per cent and an incidence of neurosyphilis in the same group of 6.5 per cent. Of the 126 men, six gave positive Wassermann reactions and one patient had a negative Wassermann reaction with a positive spinal fluid reaction, making a percentage of males with blood syphilis of 4.7 per cent and an incidence of neurosyphilis in men of .007 per cent. The percentage of blood syphilis in the women was four times greater than in men and the incidence of neurosyphilis in men was only one-ninth that found in women. For the entire group of 142 inebriates the incidence of blood syphilis was seven per cent and of neurosyphilis 1.4 per cent. This is twice the incidence of blood syphilis found in the Independence series and one-half the incidence of neurosyphilis found there.

The great disparity in the findings of the two institutions suggested a survey of the insane admissions for the same period as to the incidence of blood syphilis and neurosyphilis. This series consisted of 312 men and 269 women, a total of 581 insane patients, on whom routine Wassermann tests were performed. Spinal Wassermann tests were made on those with positive blood or other suspicious clinical indications. For the group of the insane the incidence of blood syphilis was found to be 6.7 per cent and that of neurosyphilis 5.5 per cent, the neurosyphilis being two per cent greater in men than in women. The incidence of neurosyphilis in the insane women including paretics was only one-half that in the female inebriates, while the incidence of neurosyphilis in the insane men including paretics was 4.6 per cent as compared to .007 per cent of neurosyphilis in male inebriates. Neurosyphilis was six times greater in the male insane than in the male inebriates, but two per cent less in the female insane than in the female inebriates.

The observation might be made here that the incidence of syphilis in state hospitals has apparently declined in the last few years. The incidence in the present series of cases is 6.7 per cent, as compared to an incidence of ten per cent several years ago. In this series the incidence of syphilis in the insane and in inebriates is almost identical, that is, 6.7 per cent and seven per cent, respectively, which is considerably less than the commonly accepted ten per cent in the general population. Our figures in the Clarinda series disagree with those of the Independence

series. This may be partially explained by the fact that the two hospitals draw patients from two different territories at opposite corners of the state. However, the discrepancy is more likely due to the statistical error of attempting to draw definite conclusions from the study of small series. An example may be cited in our series of sixteen female inebriates, one of whom gave a positive spinal fluid reaction. This resulted in the percentage of neurosyphilis in women inebriates of 6.25 per cent. The addition of only one more positive case would double this incidence, which would obviously make a wide margin of error. Apropos of this question, McFarland and Goldstein of Columbia University gave as a criterion that "the number of subjects studied in a series is adequate only when the addition of more subjects does not significantly alter the statistical results."

Case Report

ROCKY MOUNTAIN SPOTTED FEVER

Report of Three Simultaneous Cases in One Family

H. E. STROY, M.D., Osceola

Rocky Mountain spotted fever is a disease transmitted to man by the bite of an infected wood tick and is characterized by high fever, prostration and a maculopapular measles-like eruption which begins on the ankles and wrists and gradually spreads over the entire body. The diagnosis of spotted fever is somewhat confusing, especially in a mild case. The presence of an eruption accompanied by fever, with or without a history of previous tick bite, should arouse enough suspicion to justify further examination. Repeated blood agglutination tests, when positive in high dilution, are usually pathognomonic. Like other agglutination tests the Weil-Felix reaction does not develop until the disease has existed for several days and gradually becomes stronger as the disease progresses. The mortality rate of spotted fever is relatively high. Spotted fever was first recognized in Iowa during the summer of 1933 when several cases were reported. It was my good fortune at that time to have observed two cases of spotted fever which were later reported in this JOURNAL.* One of these patients made a complete recovery; the other has since developed an epileptiform syndrome which is rapidly approaching a fatal termination. During the past three weeks I have observed three additional cases of Rocky Mountain spotted fever in the same household; all of the patients were ill at the same time. A report of these cases follows:

Case 1. Marie J., three years of age, was first

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seen June 4, 1937, at her home. She was desperately ill with a temperature of 106 degrees. A generalized maculopapular, reddish-brown eruption was present over her whole body. A history obtained from the mother revealed that four days prior to the onset of her infection on May 31, three ticks had been removed from her body, one of which was engorged. This patient was again seen on June 6; there had been little change in her general condition. A specimen of blood obtained on this date showed no agglutination to *B. proteus* X19. On June 7 her condition became so desperate that she was taken to the hospital and 80 cubic centimeters of convalescent serum were administered. The blood showed 32,000 leukocytes at this time and the urine contained considerable albumin. Except for a generalized eruption, high fever, rapid pulse and muscular twitchings there were no characteristic physical findings. Her condition became gradually worse and on June 10 she became cyanotic and died. A blood specimen on the day of her death agglutinated *B. proteus* X19 in a dilution of 1:160.

Case 2. Roy J., five years of age, was first seen on June 4, 1937, at which time he was moderately ill with a temperature of 103 degrees, and complaining of a severe headache. A fine maculopapular eruption, similar to that of his sister, was confined to his legs and forearms. The history obtained from the mother indicated that he first became ill on May 29, and that three days prior to that date several ticks were removed from the back of his neck. On June 6 a blood specimen showed an absence of agglutination to *B. proteus* X19. The temperature rose gradually to 105 degrees and he became progressively worse. On June 8 he was brought to the hospital and 60 cubic centimeters of convalescent serum were administered. At the time of admission the eruption had spread over the whole body, remained stationary until June 12 when it began to fade. The eruption had completely disappeared by June 17 when he was dismissed from the hospital. With the fading of the rash there was a concurrent drop in temperature which was 98.8 degrees on June 16. A blood specimen obtained on June 11 showed an agglutination to *B. proteus* X19 in a dilution of 1:1280. Thus far there have been no sequelae.

Case 3. George J., eleven years of age, was first seen June 4, along with the other two children. His mother stated that he was not very ill but in view of the fact that she had also removed an engorged tick from his face a few days previously, she asked that he be examined. On examination this boy did not appear to be very ill and he complained only of a headache. His temperature was 102 degrees, and he had a definite macular eruption

on the feet and hands. A Weil-Felix reaction on a blood specimen taken June 6 was negative. This was repeated on June 17, and was positive in a dilution of 1:320. The course of the infection in this case was rather uneventful and the eruption, with the exception of a few scattered spots, remained fairly well confined to the feet and hands.

COMMENT

These three cases represent varying degrees of severity of spotted fever. The least severe of these cases might easily have gone unrecognized had there not been occasion to observe him closely and had the agglutination test not been repeated. Inasmuch as five cases of spotted fever have been reported from this (Clarke) county alone, one would be justified in assuming that spotted fever is perhaps not so rare in Iowa as is generally supposed. No doubt many mild cases go unrecognized. There seems to be an unusual abundance of ticks in Iowa this summer and it would be well for all rural practicing physicians to become "spotted fever conscious" so that we may obtain a true picture of the prevalence of this disease in Iowa.

Author's Note.—Since preparing this report, I have had occasion to observe an additional case of spotted fever. As the patient is at present acutely ill with the disease the outcome cannot be determined.

CLINICAL NOTES FROM THE COLLEGE OF MEDICINE

ROCKY MOUNTAIN SPOTTED FEVER

A Report of Four Iowa Cases

M. L. FLOYD, M.D., Iowa City

From the Department of Pediatrics, State
University of Iowa

Rocky Mountain spotted fever is an acute, specific tick-borne disease, not communicable by contact. Clinically it resembles typhus, and in various stages it has been confused with hemorrhagic measles, epidemic meningitis and typhoid fever. The confusion seems justifiable in regions where the disease hitherto did not exist.

Tick bite fever has long been recognized in many Rocky Mountain states; hence the name. In recent years it has been endemic in some Appalachian and Atlantic coast states. More recently the malarial fever has appeared in the middlewestern states, several cases having been reported in Iowa. Because Rocky Mountain spotted fever may cause a high mortality rate and is tick-borne, there may be some

cause for fear that the native tick is or may become infested with the virus or Rickettsiae of this disease. One of the various possible causes of local tick infestation may be the shifting of cattle and sheep from fever localities to areas where the native tick has been free from the virus. Since the infection occurs by tick bite or by the bursting on the skin of an engorged infected tick, those persons living or working in the open are more exposed to it. A high proportion of those affected are children. The disease is seasonal, occurring more in the spring and early summer when the tick is more active.

The disease usually has a somewhat abrupt onset. The initial symptoms last three to four days and consist of malaise, general aches and pains, listlessness and severe headache, usually frontal. Children prefer to stay in bed. The temperature rises higher each day, usually with morning remissions. Chills are inconstant. The leukocytes of the blood remain normal or low in number. The most important diagnostic symptom and phase of the disease is the eruption which appears about the fourth day, and consists of rose-colored macules and small blotches on a flushed skin. The eruption becomes deeper seated, hemorrhagic, often papular as the disease progresses, and does not blanch on pressure when well established. It is more pronounced at the height of the fever. While not limited, more of the eruption is to be seen on the extremities, face and head than on the trunk, but in a severe case the body may be profusely covered. On the head it may be overlooked because of the hair. Once seen, the general appearance and distribution of the eruption leaves a lasting impression of its characteristics on the observer. Other symptoms may be abdominal cramps or painful spasms of leg muscles, causing the patient to assume a flexed position. Retraction of the head may occur and may simulate this symptom of meningitis. Mild lymphadenitis develops and the spleen may be palpated. Stupor is common when the patient is severely or even moderately ill. A positive diagnosis is made by means of the Weil-Felix reaction which consists of the agglutination of *B. proteus* X19 by the diluted serum of the patient. The treatment of the disease is entirely symptomatic.

The following four case reports are of children who became infected with Rocky Mountain spotted fever in Iowa. In no instance was there any direct evidence that any of the four had been bitten by a tick or had burst an engorged tick on the skin. The first patient was a farm girl whose father had purchased cattle from western states, and the examination showed presumptive evidence of a tick bite on the right thigh. The second and

third patients were brothers who lived in town, but who had been in the habit of playing about stock trucks; a tick had been found on one of them. The last patient was a farm boy who had picked several ticks from his dog.

Case 1. The patient was a female, seventeen months of age, who became ill with fever and anorexia five days previous to coming under observation. There were no respiratory symptoms. An eruption appeared on the skin and measles was suspected. The temperature was 102 degrees. The patient remained febrile, anorexia became more marked, the eruption deeper seated and profuse, and the fever higher. At times the rash tended to fade, then to reappear about the face. On the evening before coming to the hospital the patient gave evidence of abdominal colic by drawing up her legs and thighs. A mild edema of the hands and feet was noted. At the time of hospital admission, five days after the onset of the illness, the patient was semicomatose except when handled, at which time she aroused and became irritable. The head was retracted, but the neck was not rigid. The temperature was 103.8 degrees. The entire surface of the body and extremities was involved with an eruption more profuse on the extremities than on the trunk. On one thigh the rash was well concentrated in an area the size of a twenty-five cent piece. The eruption consisted of lesions pinpoint to pinhead in size, pink to red, roughly circular and flush with the cutaneous surface, with normal skin between the lesions. The spots were so numerous that there scarcely was any normal skin. The lesions did not fade on pressure. The leukocyte count was 7,500 cells per cubic millimeter. Spinal fluid examination revealed nine lymphocytes per cubic millimeter and a trace of globulin. The blood serum agglutinated *B. proteus* X19 when diluted 1:2560.

Case 2. The patient was a male, six years of age, who became ill seven days before coming under observation. The initial symptoms were severe frontal headache and fever ranging from 103 to 106 degrees. The patient ached, was tired, not hungry and preferred to remain in bed. Four days after the onset of symptoms an eruption appeared on the arms, legs and face, described as being blotchy red spots, which appeared with varying intensity. Upon admission to the hospital the patient appeared acutely but not dangerously ill and was cooperative. The superficial lymph glands were enlarged and tender. The skin eruption was the outstanding feature, and, though scattered, it involved the extremities much more than the body. The rash was macular to papular, mostly discrete, pinhead in size, and red. Some individual macules were surrounded by a pink areola. The leukocyte

count was 9,100 cells per cubic millimeter. The serum agglutinated *B. proteus* X19 when diluted 1:2560. The patient recovered gradually.

Case 3. The patient was a boy, four years of age, and a brother of the patient in Case 2. His illness began two days later than that of the brother. The initial symptoms were anorexia, fever, frontal headache, photophobia, lassitude, aches and pains. The patient was determined to remain abed. Although this patient's illness began two days later than that of his brother, his eruption appeared on the same day, similarly on the face and extremities with varying intensity. When admitted to the hospital, the patient was not considered seriously ill and the eruption was nearly identical with that of the brother. A mild conjunctivitis was present. The leukocyte count was 6,750 cells per cubic millimeter. The serum agglutinated *B. proteus* X19 when diluted 1:2560. The patient recovered gradually.

Case 4. The patient was a boy, eight years of age, who became ill about twelve days before coming under observation. The initial symptoms consisted of headache and fever. The headache was general, but more severe in the frontal region. The fever became a little higher each day, but the actual temperature is not known. Mild anorexia was present. On the fourth day an eruption appeared, first on the face, then on the extremities



Illustrating the eruption present in Case 4.

and eventually on the trunk. It was said to have been a combination of small spots and blotches. Occasionally, chiefly at the time of fever peaks, the skin became flushed and the rash more brilliant, the latter fading somewhat as the temperature decreased. On the sixth day of illness the patient complained of leg cramps and on the eighth day there was pain in the neck with retraction of the head. The symptoms had been considered to indicate a diagnosis of typhoid fever or meningitis. At the time of admission to the hospital the patient's skin was flushed over the extremities and

upper trunk, and a profuse crop of rose-colored macules and papules was present, chiefly on the extremities and face. Several superficial blotches were found on the lower extremities and neck; these faded on mild pressure, while the deeper seated papules or hemorrhagic spots were fixed. The patient's neck was retracted but not stiff. The leukocyte count was 8,100 cells per cubic millimeter. The temperature at the time of coming under observation was 104.8 degrees. The patient was then nearing the convalescent period, and subsequently, with daily remissions, the temperature gradually decreased and became normal in a week. The Weil-Felix reaction was positive with a serum dilution of 1:1240.

SUMMARY

Four cases of Rocky Mountain spotted fever originating in Iowa are reported. Three of the patients recovered. Circumstantial evidence indicates that in at least three of the cases the infection arose from tick infested cattle which had been imported from other areas. One case indicates the possibility of infection of our native Iowa ticks. It is pointed out that the chief diagnostic features are the character of the eruption and the agglutination of *B. proteus* X19 with the patient's serum in high dilution.

THE FINLEY HOSPITAL CLINICOPATHOLOGIC CONFERENCES

IDIOPATHIC THROMBOPENIC PURPURA

C. C. LYTLE, M.D., and D. F. WARD, M.D.,
Dubuque

Until recently all forms of purpura were classified according to their clinical manifestations. They were thought to differ only in intensity. Today, because of improved methods of blood examination, their classification is better understood. Nevertheless, an occasional, rapidly fatal case of thrombopenic purpura like the one to be described, serves to emphasize the need for fundamental research in the etiology and pathology of this form of blood disease.

CASE REPORT

Complaint: The patient, a white girl thirteen years of age, was admitted to The Finley Hospital May 8, 1937, because of "numerous hemorrhages over the entire body and oozing of blood from the gums and nose".

Family history: Her mother, three brothers and one sister were alive and in good health. Her father died at forty-five years of age from an unknown cause.

Past history: She had always been well except for attacks of hives thought to be due to eating strawberries. She had not taken any drugs. Her menstrual periods had begun three months previous to the present illness and had been normal. She had always had a liberal diet with vegetables, citrus fruits, and a moderate amount of meat.

Present illness: Five days before admission she suddenly developed a generalized purpuric rash which was most pronounced over the legs and



Figure 1.

thighs. There were no pulmonary symptoms and there was no fever. The day before admission blood began to ooze from the gums and nasal mucous membrane, (Fig. 1).

Physical examination: The patient was a well developed and nourished white girl. Her temperature was 99 degrees, the respirations were 20, and the pulse rate was 88 per minute. The blood



Figure 2.

pressure was 90 65. The head, eyes and ear were negative. The gums showed a few small hemorrhages along the gingival margin. The tongue, cheeks and tonsils appeared clean. There were a

few blood crusts in the external nares. One incisor tooth was dead and had a gold inlay, but x-ray examination, which was done outside the hospital, showed no evidence of infection. There were several slightly enlarged lymph nodes in each side of the neck. The thyroid gland was barely palpable. The chest was symmetrical; expansion was equal on each side and the lungs were normal on percussion and auscultation. The heart was of normal size; the apex beat was regular in rate and rhythm. No murmurs were heard on auscultation. The abdomen was scaphoid and no masses could be palpated. The spleen could not be felt and on percussion seemed normal in size. The axillary and inguinal nodes were not enlarged. The nervous system was normal. There were a large number of hemorrhages scattered over the trunk, arms, and especially over the lower extremities, (Fig. 2). There was no vaginal bleeding. The hemorrhages varied between one millimeter and three centimeters in diameter.

Blood examination: White blood count, 7,600; red blood count, 4,000,000; hemoglobin, 78 per cent (Sahli); differential count; neutrophils, 54; lymphocytes, 35; eosinophiles, two; basophiles, one; monocytes, four and undifferentiated forms, four. No immature cells were seen. The blood platelets were normal in appearance but few in number. A blood platelet count showed 101,000 per cubic millimeter of blood (after Wright and Kinnicutt). A urinalysis was negative except for a rare red cell in the sediment.

Provisional clinical diagnosis: Purpura hemorrhagica.

Course in hospital: Blood transfusions of whole blood were given as follows:

Day in Hospital	Amount of Blood
First	250 c. c.
Second	500 c. c.
Fourth	500 c. c.
Seventh	500 c. c.
Eighth	500 c. c.

In addition, calcium gluconate by mouth and intramuscular injections of thromboplastin and of parathyroid extract were given. In spite of these measures the hemorrhages of the skin increased in size and number. There was constant oozing from the gums and nose as well as numerous frank hemorrhages from the nose. The patient also had several emeses of changed blood, and repeated tarry stools. The temperature gradually rose from 99 to 103 degrees over a period of eight days. The pulse rate also rose from 88 to between 120 and 130. The respirations remained normal. On the second day she was given gelatin flavored with strawberry from which she developed hives which were troublesome for a few days, but gradually disappeared. Her only other subjective symptoms

were vague pains in the abdomen thought to be due to constipation plus the gastro-intestinal hemorrhage. Repeated blood examinations showed a gradually increasing anemia and a decrease in platelets. The day before death the red count was 1,960,000 and the hemoglobin was 45 per cent. The blood platelets were 54,000. At no time was there evidence of eosinophilia or of immature white cells. A tourniquet test on each arm was positive. The bleeding time was forty-eight minutes; the coagulation time, eight minutes. The clot of drawn blood remained soft and without retraction for thirty-six hours. In spite of all treatment she failed progressively and died on the ninth day in the hospital (the fourteenth day after the onset of the hemorrhages). Splenectomy was considered when the blood transfusions failed to arrest the progress of the disease, but was considered inadvisable because of the serious condition of the patient.

Autopsy: At autopsy the striking features were the hemorrhages of the skin and of the lung, heart and peritoneum. The intestines contained a large amount of dark blood and tarry stools, but no source of the hemorrhage, except petechial hemorrhages of the mucosa, was found. The right ovary was ten times its normal size due to hemorrhage. The spleen weighed 80 grams and was pale and flabby. The Malpighian corpuscles appeared numerous and large. Microscopic studies of the bone marrow (sternum, ribs and vertebrae) were not distinctive. A few normal appearing megakaryocytes were present. Sections of the spleen showed slightly hyperplastic lymph follicles. There were moderate numbers of large round cells (endothelial leukocytes?) in the sinuses but no megakaryocytes were found.

Anatomic diagnosis: Thrombocytopenic purpura with secondary anemia.

Comment: It is believed that all the points necessary to make a diagnosis of thrombopenic purpura were present in this case. Because of the history of hives and because of the attack following the ingestion of strawberry flavored gelatin, as well as the fever in the latter half of her illness, it might be considered to be an anaphylactoid type of purpura. Against such a diagnosis is the absence of premonitory symptoms, the prolonged bleeding time, the lack of clot retraction, and the freedom from joint symptoms. Furthermore, the rapidly fatal course of the illness and the age of the patient favors the diagnosis of idiopathic thrombopenic purpura. Unfortunately no histopathologic picture has been accepted as characteristic of the condition and the autopsy aided little in arriving at the diagnosis. Nothing was discovered to explain the temperature either

clinically or at autopsy. It may have been due to reactions to the blood transfusions or because of the absorption of extravasated blood.

GENERAL DISCUSSION

Classification of the purpuras: There have been numerous classifications published but Fowler's¹ is very satisfactory because of its inclusiveness and simplicity. It is as follows:

1. Idiopathic Thrombopenic Purpura
 - a. Acute
 - b. Chronic
2. Secondary Thrombopenic Purpura
 - a. Infections
 - b. Toxins and drugs
 - c. Blood dyscrasias
 - d. Disease of the liver
 - e. Miscellaneous

It will be noted that the above classification divides the purpuras into those of known and those of unknown etiology. The great majority belong in the former, or in other words some etiologic factor can usually be found to explain most cases of purpura. The relative incidence of such factors is indicated by Fowler's analysis of 160 cases of purpura studied at the State University of Iowa Hospitals.

1. Idiopathic Thrombopenic Purpura.....	17
a. Acute	3
b. Chronic	14
2. Secondary Thrombopenic Purpura.....	143
a. Infection	25
b. Toxins and drugs	6
c. Blood dyscrasias	81
Lymphatic leukemia	18
Lymphoma	11
Myelogenous leukemia	15
Aleukemic myelosis	7
Acute (stem cell) leukemia.....	1
Pernicious anemia	14
Aplastic anemia	11
Familial hemolytic icterus.....	1
Acquired hemolytic icterus	1
Anemia of pregnancy	1
Idiopathic hypochromic anemia..	1
d. Liver disease	12
e. Miscellaneous	19

In the above series only about ten per cent were diagnosed as idiopathic thrombopenic purpura and this figure is a fair indication of the average frequency.

Pathogenesis: Until recently there have been two main theories as to the pathogenesis of idiopathic thrombopenic purpura, although neither has been considered an entirely adequate explanation. According to Frank² there is decreased production of platelets due to the action of some injurious agent which probably originates in the spleen. Kaznelson³ on the other hand believes that the spleen through thrombolytic activity increases the rate of destruction of the platelets. It

was on the basis of this theory that he first advocated splenectomy as a therapeutic measure. While the results of this procedure in selected cases have usually been good, there is no definite evidence that the spleen is alone at fault. Many students believe that there is a dysfunction of the entire hemopoietic system. Nickerson and Sunderland⁴ have recently published the results of intensive studies of the bone marrow, spleen and of autopsy material in a series of cases encountered in several Boston hospitals. They favor the view that increased destruction of the platelets rather than inhibition of their formation is the cause of the thrombopenia. However, they state that no evidence as to where the destruction occurs was found, but from clinical evidence "the spleen plays an important rôle". They suggest that the changes noted in the bone marrow are a "compensatory hyperplasia of the megakaryocytes" which follow the increased destruction of the platelets. Whatever may be the final solution of these phases of the problem, it is now generally agreed that the thrombopenia is not the sole factor in the causation of hemorrhage. The theories that hyperpermeability of the capillary walls must be present, or that there is a qualitative defect in the platelets, or both, have been advanced as possible explanations of the hemorrhages^{5, 6 and 7}. From the above very brief discussion the need for further fundamental researches is self evident.

Diagnosis: There is nothing distinctive about the clinical pictures of the idiopathic or secondary forms of purpura. The diagnosis of the former is therefore made on the following points: spontaneous hemorrhage from mucous membranes into or beneath the skin; decreased platelet count; prolonged bleeding time; approximately normal coagulation time; lack of clot retraction; the appearance of petechiae in the skin distal to a tourniquet retarding the venous but not the arterial flow; secondary anemia without evidence of blood dyscrasia; and the absence of etiologic causative factors. The idiopathic form is more common in females than males and is likely to appear early in life. As pointed out by Fowler, the hemorrhages of the skin are not always present. "Many patients have hemorrhages from the mucous membranes of the nose, mouth, gastro-intestinal or genito-urinary tracts without involvement of the skin. Profuse uterine hemorrhage is a frequent manifestation of this syndrome in women, and hemoptysis, hematuria, and cerebral manifestations are not uncommon. These hemorrhagic manifestations are so frequently present without skin involvement that thrombopenic purpura must be considered in all cases of unexplained hemorrhage."

Treatment: In judging the numerous forms of treatment it is well to remember that many cases of thrombopenia recover spontaneously. It is therefore considered advisable to give the various non-surgical procedures a reasonable trial before resorting to splenectomy. A diet high in protein, fats, vitamins and calcium, but low in carbohydrates, has been advocated but its value is problematical. In order to increase blood calcium, calcium gluconate and parathyroid extract may be administered; otherwise organotherapy has been of no value. The various blood coagulants and hemostatics are usually found to be ineffective. Nonspecific shock therapy by the injection of horse serum, milk or peptone has been reported as successful in some cases. In the last few years snake venom has proved valuable in the hands of a few workers^{8 and 9}, but further studies are needed before its true worth can be estimated. The intravenous transfusion of whole blood is generally recognized as most valuable and should be utilized in all cases. Frequent transfusions are generally required.

More recently, because of the generally recognized dangers of splenectomy, irradiation of the spleen and long bones has been tried. Mettler and Stone¹⁰ and Rudisill¹¹ have reported favorable results in small series of cases. Whether the results are permanent is still open to question, but from their results irradiation seems advisable when other forms of treatment fail to control the hemorrhages or when splenectomy is contraindicated.

In 1916 Kaznelson first advocated splenectomy as a therapeutic measure in idiopathic thrombopenic purpura and most surgeons have agreed on its value. At the present time it is undoubtedly the procedure of choice when other measures fail to control the hemorrhage. However, the operative mortality rate is high and the selection of the best time for operation demands the highest degree of surgical judgment. Above all the diagnosis must be made with absolute certainty. Therefore, the operation should not be attempted without a full knowledge of the indications and especially the contraindications for the operation. For a full discussion of these phases of the problem the reader is referred to papers by Giffin¹², Eliason and Ferguson¹³, Doan and associates¹⁴ and by Kugelmass¹⁵.

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STATE DEPARTMENT OF HEALTH



RECOGNITION AND MANAGEMENT OF POLIOMYELITIS

At the Eleventh Annual Meeting of the Iowa Public Health Association, held in Des Moines, May 20 and 21, 1937, the subject "Recognition and Management of Poliomyelitis," was presented by Lee F. Hill, M.D., of Des Moines. The following excerpts are taken from the remarks by Dr. Hill:

"Clinically there are various ways in which the virus of poliomyelitis may affect human beings. There are first, the actual cases: non-paralytic, pre-paralytic, and paralytic cases of spinal, bulbar or cerebrospinal types. There are also carriers and it must be assumed that there is a fairly wide distribution of poliomyelitis virus in the population whenever the disease is prevalent. The next group presents some clinical evidence of the abortive type of poliomyelitis. This group is of interest because it is said that if we are able to diagnose poliomyelitis in the early stage of pre-paralysis or non-paralysis, we can influence the ultimate results and perhaps prevent paralysis.

"It is possible to diagnose infantile paralysis in the early stage by having a healthy suspicion that the condition exists and by a lumbar puncture. Not always do children have the initial rise in temperature. More often in cases we have seen a fusion of symptoms and signs—indisposition, with fever and headache. The headache is different from any headache which the patient ever had before. Important in the examination is the evidence of meningeal involvement. Children with beginning poliomyelitis usually have a stiff neck; they appear different from the patient with meningitis, in that they are bright and alert. When a patient shows stiffness of the neck and positive back signs, a lumbar puncture should be done at once.

"Park and Fisher of New York were first in 1931 to report on a series of controlled cases in which they gave convalescent serum to one pre-paralytic patient and did not give it to the next one. When results were totalled and conclusions drawn, no difference was noted between the group treated and the group not treated.

"Levinson has reported favorable results from the use of convalescent poliomyelitis serum on a group of 149 patients. Ninety-two had no paralysis, forty-one showed temporary paralysis, ten had mild permanent paralysis and four developed moderate, permanent paralysis. Only two patients died. Levinson gives large amounts of serum intravenously, 100 cubic centimeters to children and as much as 200 cubic centimeters to adults.

"Fisher reports equally good results without the use of serum. Among 685 patients with poliomyelitis, 282 had no paralysis on admission. Only fifty-seven developed paralysis. Four out of five patients recovered without paralysis and with nothing done to them.

"How can we sum up the evidence of the value of convalescent serum in the treatment of pre-paralytic cases of poliomyelitis? Animal experimentation is entirely against the possibility of convalescent serum being of any value whatsoever in the treatment of poliomyelitis in the pre-paralytic stage. The evidence in favor of serum is our clinical judgment; the patients seem to get well and faster. All other evidence is against the use of serum. There is nothing else to do but to use convalescent serum in the hope that it does some good."

CONVALESCENT POLIOMYELITIS SERUM AVAILABLE

The Iowa State Department of Health has a supply of convalescent serum available for cases of poliomyelitis which may be diagnosed and reported during the pre-paralytic stage. On June 22, in cooperation with H. E. Ransom, M.D., City Health Commissioner, and staff members of the Des Moines Health Department, blood for convalescent serum was obtained from twenty donors who showed definite evidence of a former attack of poliomyelitis. Other bleeding clinics will be arranged during the summer. Physicians desiring convalescent poliomyelitis serum may obtain the same by telephoning to the State Department of

Health, Telephone 4-9111, Extension 137 or 196. After 5:00 p. m., and in the afternoon on Saturdays or on Sundays, serum may be obtained through the following telephones in Des Moines: 7-1417, 6-1696 or 5-0453.

THE VALUE OF CONVALESCENT SCARLET FEVER SERUM

A symposium on convalescent serum was presented at the Eleventh Annual Meeting of the Iowa Public Health Association, held in Des Moines, May 20 and 21, 1937. One of the papers in this symposium was presented by Jack V. Treynor, M.D., of Council Bluffs, who has had much experience with the use of convalescent scarlet fever serum in the treatment of scarlet fever and related streptococcic infections. The following excerpts are taken from Dr. Treynor's paper:

"In evaluating new material, we have to think in terms of why it does fail on occasion. In a situation otherwise amenable to treatment by serum, serum used too late is not going to get results. In an attempt to cure a case with serum which demands more than serum (e. g., radical surgery), we have no right to expect convalescent serum to do for us what we have failed or are continuing to fail to do.

"There is an enormous field in which convalescent serum is marvelously worthwhile. Consider first the early scarlet fever case. We had in one of our hospitals five nurses who contracted scarlet fever, three in spite of negative Dick tests. We waited until we were positive that they had scarlet fever, with temperature, headache, angina and unmistakable rash. We gave 60 cubic centimeters of convalescent serum intravenously, the recommended dose for the average adult. The temperature in the early cases started downward within a few hours after administration of the serum and remained normal thereafter. There were no complications and it was not necessary to repeat administration of the serum. If there is no improvement by the next morning, the patient should again receive 60 cubic centimeters intravenously and there will usually be a favorable response and no complications.

"In the late case of scarlet fever, you must not look for a sharp response following convalescent serum, such as is demonstrable in the early case; but you can look for betterment in the patient's condition.

"In a great many cases due to the hemolytic streptococcus and following throat infections or scarlet fever, convalescent scarlet fever serum is

of value. Four cases of lateral sinus thrombosis were under observation during the past year. This condition is highly fatal; if one patient out of four recovers, this is all that can be expected. The expected ratio between death and recovery was reversed due to the use of convalescent serum. In our series of four cases of lateral sinus thrombosis, three recovered and only one died.

"I think whole blood from immunized donors is better, because it has all the value of serum, plus the value of blood, plus quantity. If a choice is to be made between serum and transfusion, use transfusion."

ROCKY MOUNTAIN SPOTTED FEVER

Ten cases of Rocky Mountain spotted fever were reported to the Iowa State Department of Health during June, 1937. The first three cases, affecting children in the same rural household, were reported to the department by H. E. Stroy, M.D., Health Officer of Osceola, and member of the State Board of Health. Dr. Stroy was one of the first physicians to recognize spotted fever in Iowa in 1933, when three cases came under his observation. An article by Dr. Stroy reporting the three recent cases, appears in the scientific section of this number of the JOURNAL on page 293. The fourth case of spotted fever, a farm boy in Jackson county, was referred to the service of P. C. Jeans, M.D., professor of pediatrics, University of Iowa, by J. A. Hoegen, M.D., of Wyoming (Jones county). This case is reported by Mark L. Floyd, M.D., of the Children's Hospital at Iowa City, in an article in this number of the JOURNAL on page 294. The remaining six cases occurred among Indians of the Sac and Fox Reservation near Toledo (Tama county) and were reported to the State Department of Health by Drs. Ira D. Nelson and A. A. Pace, both of the Indian service at Toledo. Dr. Nelson observed cases of Rocky Mountain spotted fever in former years, on an Indian reservation in Montana. Two of the six cases in the outbreak at the Tama reservation were women, both of whom recovered. The other four cases affected small children, two of whom have died; while the remaining two are critically ill at this time.

It will be recalled that the first case of Rocky Mountain spotted fever was reported to the Iowa State Department of Health on June 15, 1933, by C. N. Freligh, M.D., of Waucoma (Fayette county), Iowa. The Iowa State Department of Health has available for distribution a limited amount of convalescent spotted fever serum. Telephone

(Continued on page 377)

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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RALPH R. SIMMONS, Associate Editor.....Des Moines

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THE A. M. A. AT ATLANTIC CITY

Any attempt to give an adequate review of the American Medical Association session at Atlantic City is far beyond the scope of the editorial page of this JOURNAL. We can, therefore, only touch upon the general meeting, reserving most of our space for a brief recounting of a few of the proceedings of major significance which took place in the House of Delegates.

The registration this year was the greatest ever recorded in the history of the American Medical Association meetings, the official count of attending physicians being 9,764. Few cities, if any, in the country are so admirably equipped as Atlantic City to meet the demands for so huge an organization. Its many and beautiful hotels accommodated the visiting guests with ease, while the giant auditorium on the ocean's edge provided adequate space under one roof for all the section meetings as well as for the scientific and commercial exhibits. At any time, day or night (except for the few wee small hours) the famous board walk was alive with quick-stepping nattily-attired physicians going to and from the auditorium. Some it is true were momentarily lured from the serious objective of their visit, to try their skill at the various games of chance offered in the bazaars lining the walk, or to don bathing suits for an exhilarating plunge into the surf, for this superb convention city on the New Jersey coast has an appeal for every mood of every individual.

The scientific and technical exhibits seemed to reach a new high this year in perfection of arrangement and in attractiveness to the circulating visitors. Most of the booths were constantly crowded, and demonstrations were continuous from opening to closing hours. To the physician who would spend his entire time in this part of the meeting,

could be guaranteed the opportunity of becoming familiar with the very latest developments in modern medical practice and equipment. Even if he failed to hear a single address he could count his time well spent.

The House of Delegates had an unusually busy session. In fact several extra sessions had to be called in order to complete deliberations. Outstanding among the matters discussed was that relating to the medical care of indigents, which was alluded to by Dr. Heyd in his presidential address, by Dr. Kopetzky in resolutions submitted from the New York State Medical Society, and was the main theme of the address by Senator J. Hamilton Lewis of Illinois. Dr. Heyd in stating that, "It is not good public policy to ask the doctor to contribute largely of his time, strength and health in rendering free services in the hospital or in the community, when every other person who comes in contact with the sick is paid adequately for the services rendered," expressed a sentiment that will find accord in the minds of a great many physicians. He advanced the proposition that proved indigency deserves free medical service, paid for out of general tax funds, but that proper steps should be taken accurately to determine the state of indigency. Furthermore, he stated that the problem of indigency was a local one. Compulsory health insurance is not a solution for the problem of indigency, and should be opposed in all forms. In certain rural areas of low economic level it is desirable to set up diagnostic laboratories for the use of physicians, such laboratories to be financed by public funds.

Dr. Samuel J. Kopetzky presented resolutions adopted by the House of Delegates of the Medical Society of the State of New York. The resolutions proposed "That the House of Delegates of the American Medical Association create a group which shall formulate the principles and proposals of a national health policy to be submitted to the government". The immediate problem was stated to be the provision of adequate medical care for the medical indigent, the costs to be met from public funds. The proposals also embodied the provisions that public funds be made available for medical studies and investigations, for research, and for hospitals that render services to indigents. Administration of such a national health policy necessitates a "consolidation of all federal health and medical activities under a separate department". The committee to whom these resolutions were referred reported that the American Medical Association had already gone on record in recommending to the government that all medical and health services be consolidated under one head, and that the "American Medical Association reaffirms

its willingness on receipt of direct request to cooperate with any governmental or other qualified agency". Regarding medical service to the indigent the committee referred to the report of the Board of Trustees approved by the House of Delegates on June 8, 1937. This pronouncement sets forth the attitude of the medical profession in such a concise and definite manner that we are hereby quoting from it:

"In the past, the medical profession has always been willing to give of its utmost for the care of those unable to pay. The available evidence indicates that today throughout the United States the indigent are being given a high quality of medical care and medical service. Nevertheless, the advances of medical science have created situations in which a group of the population neither wholly indigent nor competent financially find themselves under some circumstances unable to meet the costs of unusual medical procedures. The Board of Trustees of the American Medical Association points out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all those unable to pay either in whole or in part. Members of the medical profession, locally and in the various states, are ready and willing to consider with other agencies ways and means of meeting the problems of providing medical service and diagnostic laboratory facilities for all requiring such service and not able to meet the full cost thereof. These are problems for local and state consideration primarily rather than problems of federal responsibility. The willingness of the medical profession to adjust its services so as to provide adequate medical care for all the people does not constitute in any sense of the word an endorsement of health insurance, either voluntary or compulsory, as a means of meeting the situation." The committee's report was adopted by the House of Delegates.

On Thursday morning, June 10, at a special executive session, Senator Lewis addressed the delegates. He stated that "I would like to deliver from the President of the United States a message coming direct with his authority * * * If I use his exact words, he hoped that you would find a way to cooperate with him in such method as you would jointly find would be to the service of the helpless and the afflicted within such province as you felt government should undertake." The general tenor of the Senator's remarks was to the effect that the medical profession was to be called into federal service whether it wished to be or not. The question to be decided by the House of Delegates was how it could best be done. He indicated that a federal board of examiners would be appointed who could pass on the qualifications of

physicians, presumably for federal service. "Patients" was a word used by doctors, but which had no meaning in governmental usage; "citizens" the government recognized as being useful in military service and as essential to the welfare of the government. Citizens, therefore, must be protected, and physicians are to be put in the position of officers in the army or navy to take care of the citizens. Up to the present no record is available of the action of the House of Delegates or Board of Trustees on the speech of Senator Lewis, but it can be predicted with some degree of assurance that the rank and file of physicians will not receive such European-tinted ideas with any degree of enthusiasm.

Other important subjects acted upon by the House of Delegates were contraceptive practices and related problems; the establishment of a committee on Distinguished Service Awards of the American Medical Association; selection of a meeting place for the annual session three years beyond the time of selection; blood grouping tests for the exclusion of parentage; and many others. They are presented in detail in the recent issues of the *Journal of the American Medical Association*, and every physician should read the complete report of the proceedings which came before the 1937 session of the House of Delegates of the American Medical Association at Atlantic City.

PROPHYLAXIS IN POLIOMYELITIS

The approach of the season when poliomyelitis occurs in the middle west prompts one to analyze the present status of our knowledge of the disease and what measures are available to combat it. Poliomyelitis is caused by an ultramicroscopic neurotropic virus. The disease may be produced in monkeys by intrathecal injection or by nasal instillation of the virus. The mode of transmission is still unknown, although the evidence points to droplet infection by direct contact with a subclinical case. The virus enters the body by way of the olfactory nerve and travels along the axis cylinders within the central nervous system, although certain investigators contend that the route of invasion is by way of the gastro-intestinal tract. It was originally thought that poliomyelitis was not a highly contagious disease even in the presence of an epidemic. The present concept is that the disease is as highly contagious as measles and that in any epidemic the abortive cases are extremely numerous thus explaining the general immunity of the adult population. The annual expectancy of cases in the United States is 2.9 per 100,000 of population and in the most severe epidemics in metropolitan areas the rate has never exceeded three cases per 1,000 of population.

Various prophylactic measures have been proposed; attempts to confer active immunity by vaccine and by ricineolated antigen have proved ineffective and unsafe; the prophylactic use of convalescent serum after extensive clinical trial has proved of no value. Animal experimentation indicates that the presence of humoral antibodies does not necessarily imply immunity, but rather that immunity depends upon a specific resistance of the protoplasm of the nerve cell. The therapeutic use of convalescent serum in carefully controlled series of cases has proved utterly useless. The mortality rate and the residual paralysis in the treated group exceeded that of the control group.

The failure of all the attempted methods to control the disease prompted an endeavor to modify the portal of entry of the virus in the hope that the susceptible individual might be temporarily protected. In 1925 Armstrong and Harrison reported that the intranasal application of four per cent aluminum sulphate would protect monkeys from the subsequent instillation of poliomyelitis virus. Sabin corroborated these findings and reported that a similar effect may be obtained with four per cent tannic acid. Schultz and Gebhardt procured similar results with a picric acid solution. After experimenting with various chemicals these authors have found that a one per cent zinc sulphate solution is the most effective protective agent and has a more lasting effect than any other chemical used. A single application of the zinc sulphate solution to the olfactory area of the monkey protects the animal for at least three weeks from repeated instillations of poliomyelitis virus. The premise that the virus enters the body through the olfactory nerves is now generally accepted. The evidence that alteration of the olfactory area in monkeys protects them from infection when the virus is instilled into the nose has been presented by several different investigators.

The utter hopelessness of other methods of attack certainly justifies a new approach to the prevention of this disease in the human organism. Peet, Echols and Richter outline the technic of the application of the zinc sulphate solution to the olfactory area of the human nose in the June 26 issue of the *Journal of the American Medical Association*. A suitable spray tip is introduced above the middle turbinate and 1.0 cubic centimeter of the zinc sulphate solution is sprayed upon the olfactory area. It is recommended that the procedure be repeated at two or three week intervals during an epidemic. This method of prophylaxis must be regarded as an experiment and if a correct interpretation of the results is to be obtained it must be conducted in an orderly and scientific manner, preferably through public health agencies.

The haphazard use of the alum spray in Alabama where it was sold promiscuously over the drug counter precluded any analysis of the results and should prove a valuable lesson in the conduct of a worthy experiment in preventive medicine.

MODERN CARDIAC THERAPY*

INTRODUCTION

For a number of years, the American Heart Association has been publishing and republishing an excellent little volume entitled "Classification of Heart Diseases." This book not only gives a very useful classification of cardiac disorders, but also contains in clear and concise language the signs and symptoms upon which a correct cardiac diagnosis must be based. It is the purpose of this series of articles to present in an equally concise form an evaluation of modern cardiac therapy in order that the busy practitioner of medicine may be able to reach the real kernel of the new knowledge of the heart. The evaluation presented is, of course, subject to the author's limitations. I wish to acknowledge the helpful kindly criticism of Dr. F. M. Smith.

I. PHYSIOLOGIC CONSIDERATIONS

The physician who treats diseases of the heart must always bear in mind certain physiologic peculiarities of the organ and take cognizance of them in his therapy. For that reason, certain pertinent characteristics will be stressed at the outset of these articles.

Each individual heart seems to possess its own "vital capacity," that is, the total amount of energy it can furnish under ideal conditions. The extent of this capacity is unknown; what constitutes ideal conditions is also undetermined. All that seems certain is that at comparative rest the rate should be between twenty and one hundred beats per minute. Again, no one seems to know what kind or how much exercise is good for the heart. One might think that the heart muscle would get sufficient exercise because of its normal contractions!

However, under ideal conditions, the heart does its work year in and year out, until the last foot pound of energy is generated, and then "it falls to pieces all in a day." When the organ meets with "bad weather," that is, infections of various kinds, or other forms of poisoning, and when it is forced to do more than its normal allotment of work in any one year, the vital capacity is consumed pre-

*Editor's Note—This is the first in a series of articles on modern cardiac therapy which have been prepared by Dr. Daniel J. Glomset, and which will be published in subsequent issues of the Journal. When the series is completed the reader will have available a ready reference to the newer knowledge of heart disturbances. We believe this method of presenting information is particularly valuable, and it is our hope to treat other suitable subjects in a similar manner in future issues of the Journal.

maturely and the individual's life span is shortened. Consequently, other things being equal, the person who has had, say, two attacks of pneumonia cannot live as long as he would have lived had he escaped the lung infections; and the Maine woodcutter will die years before his brother of approximately the same age who is a cashier in a bank.

As long as the heart uses only the normal amount of energy each day to supply the demand of the tissues for blood, it changes little in size or weight; but when more energy is needed to satisfy the demand, the organ undergoes hypertrophy if it can, the degree of enlargement depending upon the amount of extra energy needed and the amount of vital power left in the heart. There has been much futile speculation as to the significance of cardiac hypertrophy. However, until we are willing to say that the enlarged muscles of a blacksmith's arm are not stronger than they were when normal in size, it seems best to assume that the heart muscle elements enlarge in order to do more work, and that the enlarged heart is in the beginning a stronger organ than the one of normal weight. Cardiac hypertrophy, of course, does not increase the native vital capacity of any heart. It is simply a process whereby the organ can expend more energy in a given time, a method of spending one's cardiac reserve in riotous living. The heart may put out more than the normal amount of work for days, years, and decades, but in the end, other things being equal, death will come sooner because of it.

The amount of hypertrophy which a heart undergoes seems to depend upon the inherited characteristics of an individual as well as upon his age. For a given load, the younger heart reaches the larger size before it dilates. Since the hypertrophied heart cannot increase its total lifetime output of energy, there must come a time when even the largest hearts grow progressively weaker and weaker, and finally fail. This is a simple explanation for the failure of large hearts.

SOCIAL SECURITY WAGE INFORMATION RETURNS DUE JULY 31, 1937

Word has come from the regional offices of the Social Security Board which should be of interest to every physician-employer in the state. It may be summarized briefly as follows:

1. Effective July 1, all correspondence in regard to social security account numbers will be handled through the field offices of the Social Security Board located in each state, instead of by the local post office departments, as has previously been done. The field office of the Social Security Board for the state of Iowa is located at Des Moines, Iowa. Local post offices will continue to carry social security employer and employee application

blanks, but when they are filled in they should be forwarded to the field office of the Board.

2. On or before July 31, 1937, every employer must make a wage information return to the Bureau of Internal Revenue for the period of January 1 to June 30, 1937. This return should be sent to the nearest collector of internal revenue.
3. Wage information returns must show the account number of every employee in the employer's service at any time between January 1 and June 30, 1937.
4. In order to avoid congestion and delay in filing the required wage information return, employers are urged to take immediate steps to secure complete records of all employee account numbers. To assist them in so doing the Board makes the following suggestions:
 - A. Make every effort to locate former employees for whom you have no social security account numbers. If they cannot be located or if they have no social security number, file an employee's application for account number for each such employee.
 - B. If present employees have never filed application for a number prior to June 30, the employer is required to file an application for each such employee.
 - C. In requesting numbers of past or present employees, please do not send lists of names. Instead, file an employee's application for account number of each such employee, giving as complete identifying information as possible.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Meeting of the Council Hotel Fort Des Moines, Des Moines June 29, 1937

The Council of the Iowa State Medical Society met in Des Moines at the Hotel Fort Des Moines, on Tuesday, June 29, 1937, at 1:30 p. m.

Roll Call: All members were present except F. P. McNamara of Dubuque. Others in attendance were: Robert L. Parker, Secretary, and E. M. Myers, President.

Transactions: 1. Report of committee of Council appointed to investigate and make recommendations regarding appointment of Chairman of Speakers Bureau Committee, subsequent to resignation of Dr. D. J. Glomset.

2. Adoption of recommendation of committee that Dr. D. J. Glomset be reappointed to serve as Chairman of the Speakers Bureau Committee for the eighth consecutive year. Motion also made to recommend to the Board of Trustees that the Chairman of the Speakers Bureau be remunerated for his expenses in attending national scientific meetings of note as a means of furthering the work of the Speakers Bureau.

3. Approval of minutes of the Council meetings on May 13 and 14 at Sioux City.

4. Discussion of the place of district and county

(Continued on page 352)

Minutes of the Iowa State Medical Society Eighty-sixth Annual Session

May 12, 13 and 14, 1937

Wednesday Morning, May 12, 1937

The opening session of the Eighty-sixth Annual Session of the Iowa State Medical Society, held at the Masonic Temple, Sioux City, May 12 to 14, 1937, convened at nine-ten o'clock, Dr. Prince E. Sawyer, president, presiding.

The invocation was delivered by Reverend Edward W. Stimson.

An address of welcome was given by Honorable A. W. Hayes, Mayor of Sioux City.

Greetings of the Woodbury County Medical Society were extended by its president, Dr. Thomas R. Gittins. The response was given by Dr. Douglas N. Gibson, second vice president of the Iowa State Medical Society.

In the Symposium on Gallbladder Diseases, the following papers were presented:

"Anatomy," by Dr. Ewen M. MacEwen of Iowa City.

"Medical Phase," by Dr. Fred M. Smith of Iowa City.

"X-Ray," by Dr. Carl L. Gillies of Iowa City.

"Surgical Phase," by Dr. Frank R. Peterson of Iowa City.

Dr. Frank J. Rohner, Iowa City, first vice president, assumed the chair while the presidential address was delivered by Dr. Prince E. Sawyer.

The meeting adjourned at twelve-ten o'clock.

Thursday Morning, May 13, 1937

The Thursday morning session convened at eight-fifty o'clock, President Sawyer presiding.

There was a fracture demonstration by Dr. Walter Scott of Sioux City on behalf of the Fracture Committee.

President Sawyer introduced the medical guest speaker, Dr. E. V. Allen, assistant professor of medicine, Rochester, Minnesota, who presented a

paper on Polycythemia and Hypertension and conducted a medical clinic illustrating cases of this type.

Dr. Dean D. Lewis, professor of surgery, Johns Hopkins University School of Medicine, Baltimore, Maryland, the surgical guest speaker, was introduced by the President. He presented a paper on "Endocrinology as Related to Surgery," and conducted a surgical clinic illustrating this type of case.

Dr. Sanford R. Gifford, professor of ophthalmology, Northwestern University Medical School, Chicago, Illinois; guest of the eye, ear, nose and throat section addressed the general session on "Recent Views of Senile Cataract."

The closing paper was "Hyperinsulinism and Hypoglycemia in Infants and Children," by Dr. Alexis F. Hartmann, professor of pediatrics, Washington University School of Medicine, St. Louis, Missouri.

The meeting adjourned at twelve-five o'clock.

Friday Morning, May 14, 1937

The Friday morning session convened at nine o'clock, Dr. W. A. Sternberg, chairman of the surgical section, presiding.

Dr. Dean D. Lewis, Baltimore, presented a paper on "Surgical Lesions of the Breast," and conducted a surgical clinic.

Dr. E. V. Allen, Rochester, Minnesota, presented a paper and clinic on the subject of "Exhaustion States and Disorders of Mood, and Their Treatment with the Use of Benzidrene Sulphate."

President Sawyer assumed the chair and introduced Dr. Charles Gordon Heyd, president of the American Medical Association, who gave an address on "Medical Economics."

The report of the House of Delegates was given by Secretary Parker.

Following the installation of Dr. Edward M. Myers, Boone, as president, the meeting adjourned at eleven-fifty o'clock.

Section on Medicine

Wednesday Afternoon, May 12, 1937

The opening session of the Section on Medicine, held in connection with the Eighty-sixth Annual Session of the Iowa State Medical Society, at the Masonic Temple, Sioux City, May 12 to 14, 1937, convened at two o'clock, Dr. Robert N. Larimer, Chairman of the Section, presiding.

The following papers were presented:

"Relation of Gallbladder Disease to Certain Heart

Conditions," by Dr. John W. Thornton of Lansing; discussed by Drs. George B. Crow of Burlington and Merle J. McGrane of New Hampton.

"Brucellosis" by Dr. Lee R. Woodward of Mason City; discussed by Drs. Nelson M. Whitehill of Boone and Carl F. Jordan of Des Moines.

"Present Trends in Pulmonary Diagnosis and Therapy," by Dr. Clinton E. Harris of Grinnell; discussed by Drs. John H. Peck of Oakdale and Aldis A. Johnson of Council Bluffs.

"The Frequency of Syphilis and Neurosyphilis in Chronic Alcoholism," by Dr. Robert A. Stewart of Independence; discussed by Drs. Roscoe D. Smith of Clarinda and Leonard P. Ristine of Mt. Pleasant.

"A Comparison of Defects in Various Types of Anemia," by Dr. Frederick H. Lamb of Davenport; discussed by Drs. Nelson L. Hersey of Independence and Willis M. Fowler of Iowa City.

The meeting adjourned at four-thirty o'clock.

Thursday Afternoon, May 13, 1937

The second session of the Section on Medicine was called to order at two o'clock, Thursday, May 13, Chairman Larimer presiding.

The following papers were presented:

"Diarrheas," by Dr. John C. Parsons of Des Moines; discussed by Drs. Julian E. McFarland of Leon, and Albert A. Schultz of Fort Dodge.

"Vincent's Infection in Children," and "Unusual Symptoms Due to Round Worm Infestation," by Dr. Roland W. Stahr of Fort Dodge; discussed by Drs. Roy M. Conmey of Sergeant Bluff, and Nelle T. Schultz of Humboldt.

"The Prevention and Treatment of Severe Disturbances in Water and Electrolyte Balance," by Dr. Alexis F. Hartmann of St. Louis, Missouri.

"The Prevention and Treatment of Whooping Cough," by Dr. Rusl P. Noble of Cherokee; discussed by Drs. Peirce D. Knott of Sioux City, and Robert O. Hughes of Ottumwa.

"Present Status in Serum Treatment of Scarlet Fever and Measles," by Dr. Lee F. Hill of Des Moines; discussed by Drs. Glenn E. Harrison of Mason City, and Jacob N. Lande of Sioux City.

The meeting recessed at four thirty-five o'clock.

Section on Surgery

Wednesday Afternoon, May 12, 1937

The opening session of the Section on Surgery, held in connection with the Eighty-sixth Annual Session of the Iowa State Medical Society, at the Masonic Temple, Sioux City, May 12 to 14, 1937, convened at two o'clock, Dr. Walter A. Sternberg of Mt. Pleasant, Chairman of the Section, presiding.

The following papers were presented:

"Internal Fixation for Fractures of Femoral Neck," by Dr. Carl J. Lohmann of Burlington; discussed by Drs. Barclay J. Moon of Cedar Rapids; Walter Scott of Sioux City, and W. Eugene Wolcott of Des Moines.

"What We Should Expect From Transurethral Prostatic Resection," by Dr. Wayland K. Hicks of Sioux City; discussed by Drs. Homer W. Scott of Fort Dodge, and Wendell L. Downing of Le Mars.

"Surgical and Hormonal Treatment of the Undescended Testicle," by Dr. John W. Duncan of Omaha, Nebraska.

"Tumors of the Breast," by Dr. Grant Augustine of Council Bluffs; discussed by Drs. Henry J. Heusinkveld of Clinton and Edward S. Parker of Ida Grove.

"Intrathoracic Goiter," by Dr. Kenneth L. Johnston of Oskaloosa; discussed by Drs. M. C. Hennessy

of Council Bluffs and Ernest J. Lessenger of New London.

The meeting adjourned at four-thirty o'clock.

Thursday Afternoon, May 13, 1937

The second session of the surgical section convened at two o'clock, Chairman Sternberg presiding.

The following papers were presented:

"Osteogenic Sarcoma," by Dr. John T. Hanna of Burlington; discussed by Drs. Karl R. Werndorff of Council Bluffs and Lewis M. Overton of Des Moines.

"Preoperative and Postoperative Care," by Dr. John E. Brinkman of Waterloo; discussed by Drs. Donald C. Konzett of Dubuque and Lester D. Powell of Des Moines.

"Surgery of the Large Bowel," by Dr. Claude F. Dixon of Rochester, Minnesota.

"Surgery in the Diabetic Patient," by Dr. Joseph B. Priestley of Des Moines; discussed by Drs. Walter F. Harriman of Sioux City, Bush Houston of Nevada and E. B. Winnett of Des Moines.

"Surgical Aspects of Obstetrics," by Dr. James C. Donahue of Centerville; discussed by Drs. Byron D. Hartley of Mt. Pleasant and Arthur G. Plankers of Dubuque.

The meeting adjourned at four-thirty o'clock.

Section on Ophthalmology, Otology and Rhinologyngology

Wednesday Afternoon, May 12, 1937

The opening session of the Section on Ophthalmology, Otology and Rhinologyngology, held in connection with the Eighty-sixth Annual Session of the Iowa State Medical Society, at the Masonic Temple,

Sioux City, May 12 to 14, 1937, convened at two o'clock, Dr. Wayne J. Foster of Cedar Rapids, Chairman of the Section, presiding.

The following papers were presented:

"The Treatment of Trachoma," by Dr. James H.

Allen of Iowa City; discussed by Dr. Herman C. Kluever of Fort Dodge.

“Advantages of Biomicroscopy in Certain Cases of Beginning Ocular Pathology,” by Dr. Wayland H. Maloy of Shenandoah; discussed by Drs. Edward C. Nowak of New Hampton and John H. Matheson of Des Moines.

“The Advantages and Disadvantages of Some of the New Procedures in Cataract Extractions,” by Dr. Elmer P. Weih of Clinton; discussed by Drs. Edwin C. Cobb of Marshalltown and Abbott M. Dean of Council Bluffs.

“The External Frontal Operation,” by Dr. Dean M. Lierle of Iowa City.

Thursday Afternoon, May 13, 1937

The second session of the Section on Ophthalmology, Otology and Rhinolaryngology was called to

order at two o'clock, Thursday, May 13, Chairman Foster presiding.

The following papers were presented:

“The Treatment of Corneal Infections,” by Dr. Sanford R. Gifford of Chicago, Illinois, guest speaker of the section.

“The X-ray Becomes an Adjunct to Otolaryngologic Therapy,” by Dr. Lloyd G. Howard of Council Bluffs; discussed by Drs. John K. Von Lackum of Cedar Rapids and Cecil C. Jones of Des Moines.

“Progress in the Management of Paranasal Sinus Disease,” by Dr. George C. Albright of Iowa City; discussed by Drs. John B. Gregg of Sioux Falls, South Dakota, and J. J. Potter of Iowa City.

“The Little Things We Do in Everyday Practice of the Head Specialties,” by Dr. Thomas R. Gittins of Sioux City; discussed by Drs. John A. Thorson of Dubuque and J. E. Rock of Davenport.

Transactions of the House of Delegates

Iowa State Medical Society, Eighty-sixth Annual Session

May 12, 13 and 14, 1937

The opening session of the House of Delegates, held in connection with the Eighty-sixth Annual Session of the Iowa State Medical Society, at the auditorium of the Masonic Temple, Sioux City, May 12 to 14, 1937, convened at four-ten o'clock, President Prince E. Sawyer presiding.

Roll call was taken by card registration, which showed the following representation of counties by delegates and alternates:

Delegates	
Allamakee.....	J. W. Thornton
Appanoose.....	J. C. Donahue
Black Hawk.....	J. E. Brinkman
Bremer.....	L. C. Kern
Buchanan.....	H. A. Householder
Buena Vista.....	M. A. Armstrong
Calhoun.....	R. G. Hinrichs
Carroll.....	O. P. Morgenthaler
Cerro Gordo.....	E. L. Wurtzer
Cherokee.....	C. F. Obermann
Chickasaw.....	N. Schilling
Clay.....	E. E. Munger
Dallas-Guthrie.....	E. L. Bower
Decatur.....	G. P. Reed
Des Moines.....	J. T. Hanna
Dickinson.....	J. J. Buchanan
Dubuque.....	L. H. Fritz
Fremont.....	Kenneth Murchison
Greene.....	Geo. W. Franklin
Hamilton.....	M. B. Galloway
Harrison.....	C. S. Kennedy
Howard.....	Wm. A. Bockoven
Jasper.....	Harry P. Engle
Jefferson.....	H. E. Graber
Johnson.....	Geo. C. Albright
	E. M. MacEwen
Linn.....	T. F. Suchomel
Lyon.....	W. Vander Wilt
Marshall.....	A. D. Woods
Mills.....	Dean W. Harman

Mitchell.....	R. L. Whitley
Monona.....	E. C. Junger
Pocahontas.....	W. W. Beam
Polk.....	N. Boyd Anderson
	W. E. Baker
	Lee Forrest Hill
	Clifford W. Losh
Pottawattamie.....	F. Earl Bellinger
Ringgold.....	E. J. Watson
Scott.....	Geo. Braunlich
	W. C. Goenne
Shelby.....	E. A. Moore
Sioux.....	A. L. Lock
Story.....	Bush Houston
Tama.....	Ira D. Nelson
Union.....	C. C. Rambo
Washington.....	W. L. Alcorn
Woodbury.....	T. R. Gittins
	Chas. T. Maxwell
Wright.....	R. D. Bernard

Alternate Delegates	
Audubon.....	H. Borre
Boone.....	R. S. Shane
Butler.....	J. G. Evans
Clinton.....	R. T. Lenaghan
Delaware.....	J. L. Keane
Emmet.....	J. B. Knipe
Jones.....	M. G. Beddoes
Lee.....	Frank M. Fuller
Mahaska.....	W. N. Wright
Marion.....	F. M. Roberts
Plymouth.....	W. J. Brunner
Warren.....	E. E. Shaw

Officers	
President.....	Prince E. Sawyer
President-Elect.....	E. M. Myers
Secretary.....	Robert L. Parker
Treasurer.....	Harold J. McCoy
Trustee.....	Oliver J. Fay
Trustee.....	John I. Marker

Councilor.....	Felix A. Hennessy
Councilor.....	Lee R. Woodward
Councilor.....	F. P. Winkler
Councilor.....	J. E. Reeder
Councilor.....	C. W. Ellyson
Councilor.....	A. W. Erskine
Councilor.....	C. A. Boice
Councilor.....	H. A. Spilman
Councilor.....	J. C. Macrae
Councilor.....	M. C. Hennessy

President Sawyer: The House of Delegates will come to order. We will listen to the report of the Secretary.

Secretary Parker: Mr. President, I *move*, first, that the reports as published in the Handbook be received by this body.

The question was called for, put to a vote and carried.

Reports of Officers

REPORT OF THE SECRETARY

To the members of the House of Delegates:

The following report for the year 1936 is respectfully submitted:

Membership

The membership record for 1936, as set out in the tabulated report,* may be summarized as follows:

Active Members.....	2355
(Life Members Included)	
Delinquent Members.....	54
Eligible Non-members.....	270
Ineligible Non-members.....	112
Physicians retired or not in practice.....	191

Each county society secretary should examine carefully the tabulated report and notify this office if the report does not check with his records.

One Hundred Per Cent Counties

Adair	Floyd	Ringgold
Adams	Howard	Scott
Audubon	Ida	Story
Boone	Lyon	Tama
Calhoun	Madison	Van Buren
Chickasaw	Marshall	Washington
Clarke	Monona	Winneshie
Emmet	Osceola	Wright
	Poweshiek	

Your Secretary attempts to keep on file in the State Society office an accurate record of all members and other physicians throughout the state. To this end, reports are sent twice a year to each county society secretary for correction. Their cooperation in checking these lists with their own records and returning them promptly is urgently requested. Reports to the State Society office regarding the death or removal of members, or the location of new physicians in the county, are very important and helpful in maintaining this list.

Amendments to Constitution and By-Laws

It is the hope of this office that the amendment to the Constitution and By-laws concerning life membership, which was proposed from the floor of the House of Delegates last year, shall not be passed. The wording is such that complications might arise concerning its interpretation and enforcement. Your consideration of the substitute amendment included in the report of the Committee on Constitution and By-laws is sincerely urged.

It is also the feeling of this office that the proposed amendment concerning members convicted of a felony, involving a question of moral turpitude, should be made a part of the Constitution and By-laws of the Iowa State Medical Society. This change was recommended for adoption by all state medical societies at a conference of state medical society secretaries. Retaining such individuals as members in good standing of our professional organizations, destroys the confidence of the public in those physicians with whom he is associated. In the past, such individuals have been serving sentences in state and federal penitentiaries and have still been carried as members in good standing of their medical societies.

Dues for Life Members

It has come to our attention that many counties who have life members, require them to pay dues to the county society. This is in conflict with the Constitution and By-laws of the State Society which at the present time provides that life membership shall carry full privileges of membership but exempts the individual from the payment of dues. This means both state and county society dues.

Membership Affiliation

There has been some confusion over the amendment adopted at the 1936 House of Delegates, requiring that members pay dues to the county society in which they reside. Some physicians who have tried to affiliate with the medical society through another county than the one in which they reside, have written the State Society office requesting that they be allowed to do so. It should be understood that this is not a matter to be decided by the Secretary. He has to follow out the dictates of the House of Delegates, which adopted this amendment last year.

Membership Roster

In accordance with the approval of the House of Delegates, the July, 1936, issue of the Journal of the Iowa State Medical Society carried a complete roster of the membership. This is to be repeated annually in this issue of the Journal. It will include the names of all members in good standing when that Journal goes to press, i.e., all members who have paid their dues for the current year. The office would like to have the reaction of the county societies regarding the form in which such roster

1936 MEMBERSHIP RECORD

County	1936 Membership	Delinquent Members	Eligible Non-Members	Ineligible Non-Members	Not in Practice or Retired	Percentage of Eligible Physicians Who Are Members
Adair	9	.....	.....	.....	1	100
Adams	9	.....	.....	.....	.....	100
Allamakee	3	2	5	3	1	30
Appanoose	17	.....	2	.....	.....	89
Audubon	10	.....	.....	.....	1	100
Benton	17	.....	5	.....	1	77
Black Hawk	61	1	1	7	4	97
Boone	24	.....	.....	.....	2	100
Bremer	18	.....	1	1	.....	95
Buchanan	20	.....	1	2	2	95
Buena Vista	19	.....	2	.....	1	90
Butler	11	.....	3	2	2	79
Calhoun	21	.....	.....	.....	3	100
Carroll	22	1	1	2	1	92
Cass	18	1	2	3	1	95
Cedar	9	3	6	.....	1	50
Cerro Gordo	48	.....	1	2	.....	98
Cherokee	15	2	5	.....	1	69
Chickasaw	12	.....	.....	.....	1	100
Clarke	8	.....	.....	.....	.....	100
Clay	11	.....	4	2	.....	73
Clayton	18	.....	4	.....	1	82
Clinton	37	.....	15	2	1	71
Crawford	12	1	3	1	.....	75
Dallas-Guthrie	37	.....	13	2	2	74
Davis	13	.....	2	.....	.....	87
Decatur	9	.....	2	1	.....	82
Delaware	13	1	5	1	1	68
Des Moines	34	2	7	1	1	79
Dickinson	11	1	1	.....	.....	85
Dubuque	66	.....	7	.....	1	90
Emmet	13	.....	.....	1	.....	100
Fayette	19	3	9	1	2	61
Floyd	15	.....	.....	2	1	100
Franklin	12	.....	2	.....	.....	86
Fremont	12	.....	2	.....	.....	86
Greene	19	.....	3	.....	1	91
Grundy	10	.....	1	.....	.....	79
Hamilton	15	3	1	.....	4	92
Hancock-Winnebagos	22	.....	2	.....	2	96
Hardin	25	.....	1	.....	4	75
Harrison	15	1	4	2	1	89
Henry	24	.....	3	.....	2	100
Howard	9	.....	.....	.....	.....	60
Humboldt	6	.....	4	1	.....	100
Ida	11	.....	.....	.....	2	81
Iowa	13	.....	3	.....	3	84
Jackson	16	1	2	1	1	89
Jasper	31	1	3	.....	2	90
Jefferson	18	.....	2	1	.....	94
Johnson	134	.....	8	.....	6	86
Jones	12	1	2	3	.....	74
Keokuk	14	.....	5	5	.....	65
Kossuth	13	2	5	.....	.....	87
Lee	41	2	4	4	1	93
Linn	100	.....	7	5	9	15
Louis	2	2	9	1	2	85
Lucas	11	.....	2	.....	1	100
Lyon	9	.....	.....	.....	2	100
Madison	12	.....	.....	.....	2	95
Mahaska	21	.....	1	2	4	86
Marion	18	1	2	.....	12	100
Marshall	41	.....	.....	.....	3	89
Mills	16	1	1	.....	.....	50
Mitchell	8	.....	8	.....	.....	100
Monona	15	.....	.....	.....	1	45
Monroe	5	1	5	.....	.....	94
Montgomery	17	.....	1	1	.....	96
Muscataine	23	.....	1	2	2	70
O'Brien	14	4	2	1	.....	100
Osceola	9	.....	.....	.....	1	73
Page	19	.....	7	2	.....	92
Palo Alto	12	.....	1	.....	1	68
Plymouth	13	.....	5	1	4	82
Pocahontas	14	1	2	1	1	91
Polk	228	2	20	13	47	89
Pottawattamie	58	2	5	3	5	100
Poweshiek	21	.....	.....	.....	1	100
Ringgold	10	.....	.....	.....	.....	88
Sac	21	2	1	.....	.....	100
Scott	92	.....	.....	14	1	91
Shelby	10	.....	1	.....	2	89
Sioux	17	1	1	.....	1	100
Story	32	.....	.....	.....	3	100
Tama	24	.....	.....	.....	2	100
Taylor	7	2	4	.....	.....	54
Union	17	.....	1	1	3	94
Van Buren	13	.....	.....	.....	.....	100
Wapello	38	.....	3	3	3	92
Warren	8	3	1	1	1	67
Washington	22	.....	.....	.....	2	100
Wayne	8	.....	3	.....	1	88
Webster	38	1	4	.....	2	100
Winnebuck	14	.....	.....	1	.....	95
Woodbury	119	.....	7	7	4	75
Worth	6	1	1	.....	.....	100
Wright	22	.....	.....	1	1	.....
Total	2,355	54	270	112	191	88%

would be most helpful, alphabetically, as was done last year, or by town and county.

County Society Contracts

It is encouraging to note that many counties, which were temporarily on the medical relief program, are resuming their local county society contracts with their boards of supervisors for the medical care of the indigent. Much dissatisfaction has arisen regarding the medical program of the emergency relief administration. It should be understood that this plan is no longer approved by the State Society, although the officers and committees have been willing to do all within their power to make it work more satisfactorily. Several letters have been received indicating that the county societies feel that the State Society should recommend some more uniform plan for the medical care of the indigent than any now existing. It is the feeling of the State Society that there is no uniform plan which can be recommended which will meet the varying conditions prevalent in the various parts of the state. The "Iowa Plan" of county society contracts is as uniform a plan as can be recommended and still have the necessary elasticity needed to adapt itself to the varying requirements of the different communities. This plan has been recommended by the State Society. It is the feeling of the Medical Economics Committee that this problem of medical relief is one that can best be handled locally and it is hoped that the financial condition of all counties in the state may soon be such that more of the counties can resume or originate a county contract to handle this problem.

State Society Services

The membership is urged to think of the State Society office as a clearing house for their problems and interests. The personnel is anxious to be of all possible service to every member. If your requests or questions cannot be answered here you will be referred to a source where your needs can be filled. The State Society is your office—you are urged to visit it whenever opportunity permits.

Financial Report

The financial report required of the Secretary by the Constitution and By-laws is included in the audit of the certified public accountant employed by the Board of Trustees. To this report you are respectfully referred.

Robert L. Parker, Secretary

Secretary Parker: Now, Mr. President, I move that the Secretary's report as published in the Handbook be approved by this House.

The motion was put to a vote and carried.

President Sawyer: Next is the report of the Treasurer, Dr. McCoy.

REPORT OF THE TREASURER

House of Delegates, Iowa State Medical Society:

For a detailed report of the financial transactions of the Society for the year 1936, I refer you to the auditor's report published herewith.

The income for 1936 represents a slight decrease from that for 1935. However, the expenditures during the same period were decreased to a greater extent, so that the Society was able to live within its income for the year, with a small balance to its credit.

	1935	1936
Income	\$38,873.90	\$37,508.88
Expenditures	\$37,728.12	\$35,805.45
Net Income.....	\$ 1,145.78	\$ 2,703.43

The decreased income in 1936 was due almost wholly to the lessened income of the Speakers Bureau from postgraduate courses, caused by the cancelling of one entire series of courses because of unfavorable weather conditions. The decrease in expenditures may be credited to practically every department of the Society, viz., annual session, Speakers Bureau, administrative expense, office supplies, stationery and printing and committee expenses.

At the order of the Board of Trustees, the Treasurer invested the accumulated reserve funds of the past several years in government bonds, i.e., HOLC bonds bearing interest at the rate of 2½ per cent.

Respectfully submitted,

Harold J. McCoy, Treasurer

AUDITOR'S REPORT IOWA STATE MEDICAL SOCIETY DES MOINES, IOWA December 31, 1936

January 19, 1937

Dr. Oliver J. Fay, Chairman,
Board of Trustees,
Iowa State Medical Society,
Des Moines, Iowa.

Dear Sir:

In accordance with your instructions we have made an examination of the books and records of the

IOWA STATE MEDICAL SOCIETY DES MOINES, IOWA

for the year ended December 31, 1936, and now submit our report thereon, together with the following statements:

Exhibit "A"—Cash Account.

Exhibit "B"—Income Account.

Schedule No. 1—Expenditures (Treasurer).

Schedule No. 2—Expenditures (Speakers Bureau).

The following comments are made on the principal items included in the above statements.

CASH ACCOUNTS

A detailed statement of the cash account for the year ended December 31, 1936, is given in Exhibit

"A", showing the balance on hand at the beginning of the year, receipts and disbursements during the year and the final balance at the close of the year, a summary of which follows:

Cash in Banks, January 1, 1936.....\$ 8,802.05
Add: Receipts (As per Exhibit "A")..... 37,508.88

Total.....\$46,310.93
Less: Expenditures (As per Exhibit "A") 39,805.45

BALANCE, Cash in Bank December 31,
1936\$ 6,505.48

Represented by:
Bankers Trust Co. Bank (Treasurer's
Account)\$ 2.46
Bankers Trust Co. Bank (Secretary's
Account) 62.99
Bankers Trust Co. Bank (Savings Ac-
count) 6,440.03
Total (As above).....\$ 6,505.48

All receipts as herein shown were traced to the respective depository accounts and all disbursements therefrom were supported by cancelled checks as set out by Schedules No. 1 and No. 2. The balance in the various bank accounts were satisfactorily reconciled with the bank statements as at December 31, 1936, and the statements verified by direct communication with the banks.

Schedules No. 1 and No. 2, respectively, set out in detail expenditures for the year 1936, all of which were supported by checks drawn by the treasurer upon vouchers issued by the secretary. Attached to and supporting these vouchers were invoices from the various creditors properly approved by the Board of Trustees, as set out in the schedules referred to.

INCOME AND EXPENSE ACCOUNT
AND INVESTMENT ACCOUNT

Exhibit "B" sets out in detail the Income, Expense and Investment changes for the year 1936, showing excess income over expenditures of \$2,703.43, and a total of all funds on hand as at December 31, 1936, of \$46,107.01.

The following comparative statement of receipts and expenditures for the years 1936 and 1935 is submitted:

INCOME	Dec. 31, '36	Dec. 31, '35	Increase Decrease
Receipts from Sec- retary	\$30,267.95	\$29,753.13	\$ 514.82
Speakers Bureau..	3,431.03	5,151.97	1,720.94
Annual Session ...	2,560.50	2,361.50	199.00
Interest from Bonds	1,199.37	1,130.63	68.74

Interest from Sav- ings	40.03	117.84	77.81
Miscellaneous	10.00	358.83	348.83

TOTAL

INCOME.....\$37,508.88 \$38,873.90 \$1,365.02

EXPENDITURES:

Schedule No. 1....	\$32,170.54	\$33,949.76	\$1,779.22
Schedule No. 2....	2,631.46	3,771.67	1,140.21
Bank Charges and Miscellaneous ..	3.45	6.69	3.24

TOTAL EXPEN-
DITURES....\$34,805.45 \$37,728.12 \$2,922.67

EXCESS INCOME
OVER EXPENDI-
TURES\$ 2,703.43 \$ 1,145.78 \$1,557.65

Investments and total funds are shown in the fol-
lowing analysis and summary:

Net Income for the year 1936 as per Ex-
hibit "B"\$ 2,703.43
Add: Cash in banks beginning of the year 8,802.05
Treasury Bonds on hand at beginning
of the year..... 34,601.53

Total Funds\$46,107.01

Represented by:

Cash:
Bankers Trust Co. Bank (Treasurer's
Account)\$ 2.46
Bankers Trust Co. Bank (Secretary's
Account) 62.99
Bankers Trust Co. Bank (Savings
Account) 6,440.03

Treasury Bonds:
3% due 9-1-55
(Face Value)\$ 9,000.00
3% due 3-15-43
(Face Value) 25,500.00
2 3/4% due 6-15-54
(Face Value) 5,000.00
Premium paid when acquired 101.53 39,601.53

Total Cash in Banks (as above).....\$46,107.01

The Treasury Bonds as shown herein are in safe-
keeping with the Iowa-Des Moines National Bank
and Trust Company and were verified by actual
examination of same.

In conclusion we wish to express our appreciation
of the many courtesies extended to us during the
course of our examination, and we shall be glad to
furnish any additional information desired herein.

Respectfully submitted,
W. WIDDUP & CO.,
Certified Public Accountants,
Chartered Accountants.

Exhibit "A"
Cash Account
For the Year Ended December 31, 1936

	Total	Bankers Trust Company		
		Treasurer	Secretary	Savings
CASH IN BANKS:				
December 31, 1935.....	\$ 8,802.05	\$ 1,437.02	\$ 146.96	\$ 7,218.07
RECEIPTS:				
Dues.....	\$21,954.38	\$ 0..	\$21,954.38	\$ 0..
Advertising.....	6,930.84	0..	6,930.84	0..
Reprints.....	1,339.98	0..	1,339.98	0..
Miscellaneous.....	42.75	0..	42.75	0..
Speakers Bureau:				
Fees.....	2,725.42	0..	2,725.42	0..
Travel Expense.....	705.61	0..	705.61	0..
Annual Session.....	2,560.50	0..	2,560.50	0..
Return Check Payments.....	10.00	0..	10.00	0..
Interest Savings Account.....	40.03	0..	0..	40.03
Interest from Bonds.....	1,199.37	1,199.37	0..	0..
TOTAL RECEIPTS.....	\$37,508.88	\$ 1,199.37	\$36,269.48	\$ 40.03
TOTAL RECEIPTS AND BALANCE.....	\$46,310.93	\$ 2,636.39	\$36,416.44	\$ 7,258.10
TRANSFERS.....	\$ 0..	\$37,168.07	\$36,350.00	\$ 818.07
BALANCE AFTER TRANSFER.....	\$46,310.93	\$39,804.46	\$ 66.44	\$ 6,440.03
EXPENDITURES:				
Expense (Schedule No. 1).....	\$32,170.54	\$32,170.54	\$ 0..	\$ 0..
Expense (Schedule No. 2).....	2,631.46	2,631.46	0..	0..
Bank Charges.....	3.45	0..	3.45	0..
2¾ %—54's Treasury Bond.....	5,000.00	5,000.00	0..	0..
TOTAL EXPENDITURES.....	\$39,805.45	\$39,802.00	\$ 3.45	\$ 0..
BALANCE CASH IN BANKS AS AT				
DECEMBER 31, 1936.....	\$ 6,505.48	\$ 2.46	\$ 62.99	\$ 6,440.03

Subject to the attached report of W. Widdup & Co., dated January 19, 1937.

Exhibit "B"
Income and Expense Account (Including Investments)
For the Year Ended December 31, 1936

INCOME:		INVESTMENT ACCOUNT:	
Dues.....	\$21,954.38	Cash in Banks and Treasury Bonds on	
Advertising.....	6,930.84	hand as at December 31, 1935:	
Reprints.....	1,339.98	Cash.....	\$ 8,802.05
Miscellaneous.....	42.75	Bonds (Par Value	
		\$34,500.00) Cost.....	34,601.53 43,403.58
Total.....	\$30,267.95		
Speakers Bureau:			
Fees.....	\$2,725.42		
Travel Expense.....	705.61	TOTAL CASH AND TREASURY BONDS	
	3,431.03	ON HAND AS AT DECEMBER 31,	
Annual Session.....	2,560.50	1936.....	\$46,107.01
Return Check Payments.....	10.00		
Interest, Savings Account.....	40.03		
Interest from Bonds.....	1,199.37		
TOTAL INCOME.....	\$37,508.88	REPRESENTED BY:	
EXPENSES:		Treasury Bonds (Par value	
Expenditures as per Schedule		\$39,500.00) Cost.....	\$39,601.53
No. 1.....	\$32,170.54	Bankers Trust Company Bank	
Expenditures as per Schedule		(Treasurer).....	2.46
No. 2.....	2,631.46	Bankers Trust Company Bank	
Bank Charges.....	3.45	(Secretary).....	62.99
	34,805.45	Bankers Trust Company Bank	
EXCESS INCOME OVER EXPENSES..	\$ 2,703.43	(Savings Account).....	6,440.03
		TOTAL (As above).....	\$46,107.01

Schedule No. 1

EXPENDITURES

For the Year Ended December 31, 1936

Date	Check	Order	No.	No.	Drawn in Favor of	In Payment of	Distribution	Amount
1936	1-24	3	5553		Iowa Press Clipping Bureau	December Clippings	Journal	\$ 13.62
	1-24	4	5554		Cash	Office, Postage, Etc.	Rent and Office Supplies	20.00
	1-24	5	5555		Martha Washington Candies	Box for Medical Library	Journal	1.12
	1-24	6	5556		Robert L. Parker	January Salary	General Salaries	75.00
	1-24	7	5557		Grace J. McDonald	January Salary	General Salaries	95.00
	1-24	8	5558		R. R. Simmons	January Salary	Journal	100.00
	1-24	9	5559		Mary McCord	January Salary	Speakers Bureau	125.00
	1-24	10	5560		Virginia Stewart	January Salary	General Salaries	35.00
	1-24	11	5561		Dorothy Nelson	January Salary	Journal	125.00
							General Salaries	175.00
							Rent and Office Supplies	14.01
							County Society Services	1.15
							Trustees	.40
	1-24	12	5562		N. W. Bell Telephone	January Service and December Tolls	Council	2.60
							Medical Economics Committee	.90
							Journal	1.15
							Speakers Bureau	5.00
	1-24	13	5563		Gordon F. Harkness	Trustees Meeting	Trustees	13.05
	1-24	14	5564		John L. Marker	Trustees Meeting	Trustees	13.22
	1-24	15	5565		Bankers Building Corp.	January Rent	Rent and Office Supplies	90.00
	1-24	16	5566		Iowa Des Moines Nat'l Bank	Safekeeping Charges	Administrative, Misc.	17.25
	1-24	17	5567		Zaisers	Office Supplies	Rent and Office Supplies	1.02
							Legislative Committee	.32
	1-24	18	5568		Western Union Telegraph Co.	December Account	Journal	.41
							Speakers Bureau	2.60
	1-24	19	5569		Multigraph Co.	Ribbon and Type	Rent and Office Supplies	1.47
	1-24	20	5570		Central Engraving Co.	Halftones	Journal	23.03
	1-24	21	5571		C. A. Boice	8th Councilor Meeting	Council	32.19
	1-24	22	5572		Dutcher, Walker & Ries	4th Quarter Expense	Medico-Legal Expense	427.60
							Stationery and Printing	12.24
							Annual Session	3.32
	1-24	23	5573		Wallace-Homestead Co.	Printing	Journal	715.55
							Reprints	83.73
	2-4	33	5576		Medical Soc. State of N. Y.	3000 "Medicine and Man"	County Society Services	85.00
	2-7	35	5578		Postmaster	Journal Postage	Journal	50.00
	2-12	36	5579		Railway Express Agency	Charges on Pamphlets	County Society Services	10.80
	2-12	37	5580		Markwell Typewriter Exchange	Repair Royal Machine	Rent and Office Supplies	3.00
	2-14	43	5586		Fred Moore	Legislative Activities	Legislative Committee	1,000.00
	2-18	44	5587		Postmaster	Legislative Committee Meeting	Legislative Committee	22.93
	2-19	45	5588		Cash	Office Postage	Rent and Office Supplies	10.00
	2-19	46	5589		Robert L. Parker	N. W. Medical Conference	Administrative, Misc.	37.00
	2-25	52	5592		Robert L. Parker	February Salary	General Salaries	75.00
	2-25	50	5593		Grace J. McDonald	February Salary	General Salaries	95.00
	2-25	51	5594		R. R. Simmons	February Salary	Journal	100.00
	2-25	53	5595		Mary McCord	February Salary	Speakers Bureau	125.00
	2-25	54	5596		Virginia Stewart	February Salary	General Salaries	35.00
							Journal	125.00
	2-25	55	5597		Dorothy Nelson	February Salary	General Salaries	175.00
	2-25	56	5598		Cash	Office Postage, Etc.	Rent and Office Supplies	10.00
	2-25	57	5599		Des Moines Clean Towel Service	Dec., Jan. and Feb. Accounts	Rent and Office Supplies	3.75
	2-25	58	5600		Bankers Building Corp.	February Rent	Rent and Office Supplies	90.00
	2-24	49	5601		Postmaster	Complete Mailing	County Society Officers	26.88
	2-26	59	5602		Postmaster	Additional Amount for Mailing	County Society Officers	2.64
	2-26	62	5603		Iowa Press Clipping Bureau	January Clippings	Journal	15.50
							Rent and Office Supplies	14.62
							County Society Service	3.35
							Trustees	1.20
							Council	3.95
	2-26	63	5604		N. W. Bell Telephone Co.	February Service and January Tolls	Legislative Committee	14.10
							Medical Economics Committee	2.10
							Other Committees	1.80
							Journal	2.95
							Speakers Bureau	14.15
	2-26	64	5605		Felix A. Hennessy	Legislative Phone Calls	Legislative Committee	10.78
	2-26	65	5606		M. C. Hennessy	Legislative Phone Calls	Legislative Committee	4.90
	2-26	66	5607		Addressograph Co.	New Ribbon	Rent and Office Supplies	1.02
	2-26	67	5608		Multigraph Co.	New Ribbon	Rent and Office Supplies	2.40
							Administrative, Misc.	.46
	2-26	68	5609		Western Union Telegraph Co.	January Account	Legislative Committee	.50
							Journal	.20
							Speakers Bureau	.20
	2-26	69	5610		Central Engraving Co.	Halftones	Journal	75.57
	2-26	70	5611		Direct Advertising, Inc.	2,300 Legislative Circulars	Legislative Committee	14.49
	2-26	71	5612		Koch Brothers	Printing and Office Supplies	Rent and Office Supplies	5.67
							Speakers Bureau	9.69
	2-26	72	5613		L. R. Woodward	Council Expenses	Council	16.80
	2-26	73	5614		W. Widdup & Co.	1935 Audit	Administrative, Misc.	100.00
							Stationery and Printing	5.36
	2-26	74	5615		Wallace-Homestead Co.	Printing	Journal	653.91
							Reprints	62.62
	3-2	75	5618		Mr. J. Earl Hammer	Advertising Commission	Journal	59.40
	3-23	85	5628		Robert L. Parker	March Salary	General Salaries	75.00
	3-23	86	5629		Grace J. McDonald	March Salary	General Salaries	95.00
	3-23	87	5630		R. R. Simmons	March Salary	Journal	100.00
	3-23	88	5631		Mary McCord	March Salary	Speakers Bureau	125.00
	3-23	89	5632		Virginia Stewart	March Salary	General Salaries	35.00
							Journal	125.00

Amount Forward.....\$ 5,961.64

Schedule No. 1—Continued

Date	Check	Order	Drawn in Favor of	In Payment of	Distribution	Amount
1936	No.	No.		Amount Brought Forward		\$ 5,961.64
3-23	90	5633	Dorothy Nelson	March Salary	General Salaries	175.00
3-31	100	5643	Iowa Press Clipping Bureau	February Clippings	Journal	12.92
3-31	101	5644	E. M. Myers	Phone Calls and Stenographic Service	Trustees	6.85
3-31	102	5645	Panama Carbon Company	Addressograph Ribbon	Rent and Office Supplies	1.28
3-31	103	5646	Cash	Office Postage	Rent and Office Supplies	10.00
3-31	104	5647	Robert L. Parker	Clinton Trip, March 5	County Society Services	22.30
3-31	105	5648	Gaar Brothers	Stencil Coupon Book	Rent and Office Supplies	17.44
3-31	106	5649	A. S. Bowers	Finance Committee Meetings	Other Committees	7.00
3-31	107	5650	L. L. Carr	Finance Committee Meetings	Other Committees	22.70
3-31	108	5651	E. C. McClure	Finance Committee Meetings	Other Committees	6.50
3-31	109	5652	Bankers Building Corp.	March Rent	Rent and Office Supplies	90.00
3-31	110	5653	James E. Reeder	Phone Calls	Legislative Committee	6.16
3-31	111	5654	E. M. Myers	Trustees Meeting	Council	1.17
3-31	112	5655	John I. Marker	Trustees Meeting	Trustees	4.95
					Trustees	24.75
					Administrative, Misc.	1.40
					Rent and Office Supplies	14.38
3-31	113	5656	N. W. Bell Telephone Co.	March Services and February Tolls	Legislative Committee	10.25
					Other Committees	2.70
					Annual Session	2.65
					Speakers Bureau	11.00
3-31	114	5657	Berkowitz Envelope Co.	51,885 Journal Envelopes	Journal	205.60
3-31	115	5658	Addressograph Co.	New Plates	Rent and Office Supplies	3.46
3-31	116	5659	Multigraph Co.	Ribbon Coupon Book	Rent and Office Supplies	12.60
3-31	117	5660	Zaisers	Office Supplies	Rent and Office Supplies	1.12
					Administrative, Misc.	.60
3-31	118	5661	Western Union Telegraph Co.	February Account	Medical Economics Comm.	.98
					Journal	1.59
					Speakers Bureau	.96
3-31	119	5662	Koch Brothers	Printing and Supplies	Rent and Office Supplies	32.16
					Stationery and Printing	125.31
					Speakers Bureau	8.24
3-31	120	5663	Wallace-Homestead Co.	Printing	Stationery and Printing	13.00
					County Society Services	28.56
					Journal	574.87
					Reprints	180.23
4-3	121	5664	Postmaster	Postage on Handbooks	County Society Services	7.50
4-15	129	5672	Postmaster	Post cards	Stationery and Printing	10.00
4-21	138	5681	Iowa Press Clipping Bureau	March Clippings	Journal	10.87
					Administrative, Misc.	1.05
					Rent and Office Supplies	13.99
					Trustees	.40
4-21	139	5682	N. W. Bell Telephone Co.	April Services and March Tolls	Council	4.25
					Legislative Committee	3.20
					Annual Session	2.20
					Journal	.85
					Speakers Bureau	11.20
4-21	140	5683	Cash	Office Postage	Rent and Office Supplies	10.00
4-21	141	5684	Robert L. Parker	April Salary	General Salaries	75.00
4-21	142	5685	Grace J. McDonald	April Salary	General Salaries	95.00
4-27	143	5686	R. R. Simmons	April Salary	Journal	100.00
4-21	144	5687	Mary McCord	April Salary	Speakers Bureau	125.00
4-21	145	5688	Virginia Stewart	April Salary	General Salaries	35.00
4-21	146	5689	Dorothy Nelson	April Salary	Journal	125.00
4-21	147	5690	Bankers Bldg. Corp.	April Rent	General Salaries	175.00
					Rent and Office Supplies	90.00
4-21	148	5691	Western Union Telegraph Co.	March Account	Legislative Committee	1.01
					Journal	.77
4-21	149	5692	Addressograph Co.	New Plates	Speakers Bureau	1.76
4-21	150	5693	Central Engraving Co.	Half-tones	Rent and Office Supplies	1.62
4-21	151	5694	Wallace-Homestead Co.	Printing	Journal	140.78
					Reprints	560.85
4-21	152	5695	Koch Brothers	Office Supplies	Journal	124.91
					Rent and Office Supplies	7.60
4-21	153	5696	Postmaster	Journal Postage	Journal	10.49
4-27	154	5697	Postmaster	Complete Mailing	Legislative Committee	50.00
5-1	155	5698	Bishop Gerald T. Bergen	State Meeting	Annual Session	23.47
5-1	156	5700	Morris A. Biddle	State Meeting	Annual Session	100.00
5-1	157	5699	Robt. Throckmorton	State Meeting	Annual Session	8.00
5-6	158	5701	Robert L. Parker	Pay Watchman for Exhibits	Annual Session	85.00
5-15	164	5707	Grace J. McDonald	May Salary	Annual Session	7.50
5-15	165	5708	Robert L. Parker	Expenses to A.M.A. in Kansas City	General Salaries	95.00
5-15	166	5709	Dorothy Nelson	Expenses to A.M.A. in Kansas City	Administrative, Misc.	35.00
					Administrative, Misc.	21.20
5-15	167	5710	C. R. I. & P. Ry. Co.	Fred Moore to A.M.A.	Administrative, Misc.	11.75
				S. Marx White Expenses	Annual Session	15.70
5-15	168	5711	A. C. Christie	Expenses to Annual Session	Annual Session	15.70
5-15	169	5712	S. J. Kopetzky	Expenses to Annual Session	Annual Session	81.05
5-16	170	5713	F. P. Winkler	3rd District April Meeting	Annual Session	100.70
5-19	171	5714	Hartzler Public Address System	Services April 29, 30, May 1	Legislative Committee	45.50
5-26	172	5715	Straight Electric Co.	Service for Exhibits	Annual Session	35.00
5-26	173	5717	Robert L. Parker	May Salary	Annual Session	128.54
5-26	174	5718	R. R. Simmons	May Salary	General Salaries	75.00
5-26	175	5719	Mary McCord	May Salary	Journal	100.00
					Speakers Bureau	125.00
5-26	176	5720	Virginia Stewart	May Salary	Journal	125.00
					General Salaries	35.00
5-26	177	5721	Dorothy Nelson	May Salary	General Salaries	175.00
5-26	178	5722	Cash	Office Postage, Etc.	Rent and Office Supplies	10.00
5-27	182	5723	Hopkins and Mulock, Inc.	Secretary and Treasurer, Bonds	Administrative Misc.	87.50
5-27	183	5724	Old Dutch Carbon and Ribbon	Carbon Paper	Rent and Office Supplies	15.00
5-27	184	5725	D. M. Rubber Stamp Works	Rubber Stamps	Annual Session	3.11

Amount Forward.....\$10,941.64

Schedule No. 1—Continued

Date	Check	Order	Drawn in Favor of	In Payment of	Distribution	Amount
1936	No.	No.		Amount Brought Forward		\$10,941.64
5-27	185	5726	Banker Bldg. Corp.	May Rent	Rent and Office Supplies	90.00
5-27	186	5727	C. A. Boice	Councilor Expense	Council	39.15
					Rent and Office Supplies	14.03
					County Society Services	3.70
					Council	.75
5-27	187	5728	N. W. Bell Telephone Co.	May Services and April Tolls	Legislative Committee	2.35
					Annual Session	2.70
					Journal	3.75
					Speakers Bureau	12.20
5-27	188	5729	Iowa Press Clipping Bureau	April Clippings	Journal	11.27
5-27	189	5730	R. D. Bernard	Legislative Committee Expense	Legislative Committee	90.10
5-27	190	5731	D. M. Clean Towel Service	March, April and May Accounts	Rent and Office Supplies	3.75
5-27	191	5732	John I. Marker	Trustees Phone Calls	Trustees	4.28
5-27	192	5733	Railway Express Agency	Legislative Material Mailing	Legislative Committee	1.99
5-27	193	5734	A. W. Erskine	Traveling Expenses	County Society Services	19.87
					Council	4.10
5-27	194	5735	F. P. McNamara	Traveling Expenses, Miscellaneous	Other Committees	39.70
					Annual Session	4.00
5-27	195	5736	Kemble Smith Co.	Flowers for Dr. Bowen	Administrative, Misc.	7.14
5-27	196	5737	L. L. Carr	Finance Committee Phone Calls	Other Committees	3.25
5-27	197	5738	C. W. Ellyson	Miscellaneous Council Work	Council	13.91
5-27	198	5739	H. A. Spilman	Travel and Phone Calls	Council	27.86
					Legislative Committee	5.17
5-27	199	5740	J. W. Kintzinger	Dubuque Reporter	County Society Services	33.82
5-27	200	5741	T. F. Thornton	Expenses to A. M. A.	Administrative, Misc.	31.95
5-27	201	5742	V. L. Treynor	Expenses to A. M. A.	Administrative, Misc.	24.20
5-27	202	5743	Iowa T. B. Association	5 Reams of Mimeo Paper	Stationery and Printing	3.50
5-27	203	5744	L. R. Woodward	Legislative Phone Calls	Legislative Committee	4.00
5-27	204	5745	Addressograph Co.	New Plates	Rent and Office Supplies	1.85
5-27	205	5746	Western Union Telegraph Co.	April Account	Administrative, Misc.	.45
					Annual Session	3.07
5-27	206	5747	Central Engraving Co.	Halftones	Journal	27.61
					Rent and Office Supplies	1.33
					Stationery and Printing	15.81
					Speakers Bureau	11.02
5-27	209	5749	Wallace-Homestead Co.	Printing	Annual Session	365.25
					Journal	823.22
					Reprints	64.33
5-27	208	5750	Freeman Decorating Co.	Booths at State Meeting	Annual Session	318.45
6-10	210	5754	F. W. Daniels, Florist	Flowers for Banquet	Annual Session	20.40
6-10	211	5755	William J. Moore	1936 Baldrige Memorial	Administrative, Misc.	100.00
6-10	212	5756	Journal	Due Bill and a/c at J. Smith	Annual Session	24.00
6-10	213	5757	White Line Motor Ft. Co.	Bard Parker and Dr. Conzett	Annual Session	1.86
6-10	214	5758	S. Joseph & Sons	Gavel	Annual Session	15.30
6-10	215	5759	Yunker Brothers	Flowers for Women's Auxiliary	Annual Session	4.08
6-10	216	5760	Gray Wells Van and Storage Co.	Hauling Equipment for Clinics	Annual Session	4.00
6-10	217	5761	Yellow Cab Co.	Transporting Clinic Patients	Annual Session	9.70
6-10	218	5762	Des Moines Slide Co.	Lantern Slides	Annual Session	3.50
6-10	219	5763	Standard X-Ray Co.	Express Charges on 6 boxes	Annual Session	50.00
6-10	220	5764	Eastman Kodak Store, Inc.	Rental on Kodascope	Annual Session	3.50
6-10	221	5765	Mrs. William Hornaday	Auxiliary Expenses	Annual Session	66.46
6-10	222	5766	Hotel Savery	Expenses for State Meeting	Annual Session	724.87
6-20	228	5772	Walter L. Bierring	Picture	Administrative, Misc.	25.00
6-20	229	5773	J. Earl Hammer	Advertising Commission	Journal	100.80
6-23	230	5774	Freeman Decorating Co.	Additional Fee for Exhibit	Annual Session	7.50
6-23	231	5775	Master Reporting Co.	Reporting Meetings	Annual Session	345.38
6-23	232	5776	Felix A. Hennessy	Council Trips and Calls	Council	42.45
6-23	233	5777	Iowa Press Clipping Bureau	May Clippings	Journal	11.02
6-26	234	5778	Cash	Office Postage	Rent and Office Supplies	10.00
6-26	235	5779	Grace J. McDonald	One-half June Salary	General Salaries	47.50
6-26	236	5780	Robert L. Parker	June Salary	General Salaries	75.00
6-26	237	5781	R. R. Simmons	June Salary	Journal	100.00
6-26	238	5782	Mary McCord	June Salary	Speakers Bureau	125.00
6-25	239	5783	Virginia Stewart	June Salary	Journal	125.00
					General Salaries	35.00
6-26	240	5784	Dorothy Nelson	June Salary	General Salaries	175.00
6-26	241	5785	Bankers Building Corp.	June Rent	Rent and Office Supplies	90.00
					Administrative, Misc.	10.10
					Rent and Office Supplies	14.08
					County Society Services	4.05
6-26	242	5786	N. W. Bell Telephone Co.	June Service and May Tolls	Trustees	.30
					Council	2.70
					Legislative Committee	2.80
					Journal	4.55
					Speakers Bureau	9.80
6-26	243	5787	W. A. Sternberg	Program Committee Meeting	Annual Session	21.72
6-26	244	5788	E. M. Myers	Program Committee Meeting	Trustees	6.80
					Annual Session	4.20
6-26	245	5789	John C. Parsons	Trustees Meeting June 2	Trustees	7.50
6-26	246	5790	John I. Marker	Trustees Meeting	Trustees	19.99
6-26	247	5791	A. W. Erskine	Council Trips	Council	9.00
6-26	248	5792	The French Way	Cleaning Drapes	Rent and Office Supplies	3.45
6-26	249	5793	Taggart Bishop	Flowers for Drs.	Administrative, Misc.	5.10
6-26	250	5794	Western Union Telegraph Co.	May Account	Legislative Committee	1.37
6-26	251	5795	Central Engraving Co.	Halftones	Journal	42.76
6-26	252	5796	M. C. Hennessy	Council Phone Calls	Council	5.30
6-26	253	5797	Globe Machinery & Supply Co.	Casters for Operating Table	Annual Session	6.90
6-26	254	5798	Howard A. Weis	Child Health and Prot. Meeting	Other Committees	11.25
6-26	255	5799	Direct Advertising	Legislative Material	Legislative Committee	25.83
					Rent and Office Supplies	18.18
					Stationery and Printing	54.71
6-26	256	5800	Koch Brothers	Supplies	Council	82.97
					Legislative Committee	111.67
					Stationery and Printing	9.95
6-26	257	5801	Wallace-Homestead Co.	Printing	Journal	555.20
					Reprints	43.20

Amount Forward.....\$16,519.18

Schedule No. 1—Continued

Date 1936	Check No.	Order No.	Drawn in Favor of	In Payment of	Distribution	Amount
				Amount Brought Forward.....		\$16,519.18
7-16	262	5806	Postmaster	Journal Postage	Journal	50.00
7-27	265	5809	Iowa Press Clipping Bureau.....	June Clippings	Journal	12.32
7-27	266	5810	American Medical Assn.....	Directory	Rent and Office Supplies.....	12.00
7-27	267	5811	C. W. Ellyson.....	District Meeting	County Society Service.....	49.79
7-27	268	5812	Cash	Office Postage	Rent and Office Supplies.....	10.00
7-27	269	5813	Robert L. Parker.....	July Salary	General Salaries	75.00
7-27	270	5814	R. R. Simmons.....	July Salary	Journal	100.00
7-27	271	5815	Grace J. McDonald.....	July Salary	General Salaries	105.00
7-27	272	5816	Mary McCord	July Salary	Speakers Bureau	125.00
7-27	273	5817	Virginia Stewart	July Salary	Journal	125.00
7-27	274	5818	Dorothy Nelson	July Salary	General Salaries	35.00
					General Salaries	175.00
7-27	275	5819	N. W. Bell Telephone.....	July Service and June Tolls.....	Rent and Office Supplies.....	13.78
					Council	5.15
					Legislative Committee	6.25
					Other Committees	2.40
					Journal	1.15
					Speakers Bureau	7.90
7-27	276	5820	Dorothy M. Nelson.....	Sec. Conf. at Grinnell.....	County Society Services.....	5.50
7-27	277	5821	Robert L. Parker.....	Misc. Travel Expense.....	Administrative, Misc.	25.80
7-27	278	5822	Iowa-D. M. Nat'l Bank.....	Safe Keeping Jan. 1 to July 1.....	County Society Services.....	9.50
7-27	279	5823	Central Engraving Co.....	Halftones	Administrative, Misc.	17.25
7-27	280	5824	Dutcher Walker & Ries.....	Second Quarter	Journal	19.50
					Medico Legal Comm.....	286.00
7-27	281	5825	Koch Brothers	Supplies	Rent and Office Supplies.....	3.98
					Stationery and Printing.....	11.48
					Legislative Committee	97.83
					Stationery and Printing.....	8.42
7-27	282	5826	Wallace-Homestead Co.	Printing	Journal	555.31
					Reprints	143.60
7-27	283	5827	Hotel Ft. Des Moines.....	Dinners for Committees.....	Legislative Comm.	3.00
					Annual Session	5.49
7-27	284	5828	Bankers Bldg. Corp.....	July Rent	Rent and Office Supplies.....	90.00
8-26	294	5838	Iowa Press Clipping Bureau.....	July Clippings	Journal	7.82
8-26	295	5839	B. F. Wolverton.....	Baldrige Memorial Comm.....	Other Committees	6.91
8-26	296	5840	Des Moines Clean Towel.....	June, July and Aug. Acct.....	Rent and Office Supplies.....	3.75
8-26	297	5841	Cash	Office Postage	Rent and Office Supplies.....	10.00
8-26	298	5842	Robert L. Parker.....	August Salary	General Salaries	75.00
8-26	299	5843	R. R. Simmons.....	August Salary	Journal	100.00
8-26	300	5844	Grace J. McDonald.....	August Salary	General Salaries	105.00
8-26	301	5845	Mary McCord	August Salary	Speakers Bureau	125.00
8-26	302	5846	Virginia Stewart	August Salary	Journal	125.00
8-26	303	5847	Dorothy Nelson	August Salary	General Salaries	35.00
					General Salaries	175.00
8-26	304	5848	N. W. Bell Telephone Co.....	August Service, July Tolls.....	Rent and Office Supplies.....	13.62
					Council	3.55
					Speakers Bureau	3.75
8-26	305	5849	Superintendent of Printing.....	1935 Code of Iowa.....	Legislative Committee	5.00
8-26	306	5850	James McMullen.....	Electric Fan	Rent and Office Supplies.....	13.93
8-26	307	5851	John I. Marker.....	Trustees Meeting, Aug. 13.....	Trustees	21.90
8-26	308	5852	John C. Parsons.....	Trustees Meeting, Aug. 13.....	Trustees	7.75
8-26	309	5853	R. D. Bernard.....	Trustees Meeting, Aug. 13.....	Legislative Committee	10.00
8-26	310	5854	E. M. Myers.....	Trustees Meeting, Aug. 13.....	Administrative, Misc.	4.95
8-26	311	5855	Gaar Brothers	Stencils and Repair.....	Rent and Office Supplies.....	22.44
8-26	312	5856	Bankers Bldg. Corp.....	August Rent	Rent and Office Supplies.....	90.00
8-26	313	5857	American Medical Assn.....	Membership Blanks	Rent and Office Supplies.....	.75
8-26	314	5858	Jack Smith	Simmons Flowers	Administrative, Misc.	10.20
8-26	315	5859	Addressograph Co.	Changes on Plates.....	Rent and Office Supplies.....	1.07
					Administrative, Misc.	1.00
8-26	316	5860	Western Union Telegraph Co.....	July Account	Journal .....	.10
					Speakers Bureau .....	.63
8-26	317	5861	Koch Brothers	Office Supplies	Rent and Office Supplies.....	24.89
8-26	318	5862	Wallace-Homestead Co.	Printing	Journal	862.98
					Reprints	65.01
9-26	324	5868	Iowa Press Clipping Bureau.....	August Clippings	Journal	7.50
9-26	325	5869	Cash	Office Postage	Rent and Office Supplies.....	15.00
9-26	326	5870	Robert L. Parker.....	September Salary	General Salaries	75.00
9-26	327	5871	R. R. Simmons.....	September Salary	Journal	100.00
9-26	328	5872	Grace J. McDonald.....	September Salary	General Salaries	105.00
9-26	329	5873	Bankers Bldg. Corp.....	September Rent	Rent and Office Supplies.....	90.00
9-26	330	5874	Mary McCord	September Salary	Speakers Bureau	125.00
9-26	331	5875	Virginia Stewart	September Salary	Journal	125.00
					General Salaries	35.00
					General Salaries	175.00
9-26	332	5876	Dorothy Nelson	September Salary	Council	7.50
9-26	333	5877	James G. Macrae.....	Council Meeting Sept. 3.....	Council	30.50
9-26	334	5878	F. P. Winkler.....	Council Meeting Sept. 3.....	Council	12.50
9-26	335	5879	A. W. Erskine.....	Council Meeting Sept. 3.....	Council	15.50
9-26	336	5880	M. C. Hennessy.....	Council Meeting Sept. 3.....	Council	10.00
9-26	337	5881	H. A. Spilman.....	Council Meeting Sept. 3.....	Council	45.00
9-26	338	5882	F. A. Hennessy.....	Council Meeting Sept. 3.....	Council	14.00
9-26	339	5883	C. W. Ellyson.....	Council Meeting Sept. 3.....	Council	20.65
9-26	340	5884	James E. Reeder.....	Council Meeting Sept. 3.....	Council	14.35
9-26	341	5885	W. A. Sternberg.....	Program Comm. Meeting Sept. 20.....	Administrative, Misc.	10.80
9-26	342	5886	Robert L. Parker.....	Sixth District Meeting.....	Council	20.00
9-26	343	5887	F. A. Hennessy.....	Trustees Meeting Sept. 24.....	Trustees	20.40
9-26	344	5888	John I. Marker.....	Trustees Meeting Sept. 24.....	Trustees	7.80
9-26	345	5889	John C. Parsons.....	Trustees Meeting Sept. 24.....	Rent and Office Supplies.....	1.22
9-26	346	5890	Electric Light Co.	Light Bulbs	Rent and Office Supplies.....	2.02
9-26	347	5891	Addressograph Co.	Changes on Plates.....	Journal	23.17
9-26	348	5892	Central Engraving Company.....	Halftones	Council	21.65
9-26	349	5893	L. R. Woodward.....	Council Meeting Sept. 3.....		

Amount Forward.....\$21,774.14

Schedule No. 1—Continued

Date	Check No.	Order No.	Drawn in Favor of	In Payment of	Distribution	Amount
1936	No.	No.		Amount Brought Forward.....		\$21,774.14
					Administrative, Misc.	1.35
					Rent and Office Supplies.....	13.80
					County Society Services.....	.75
9-26	350	5894	N. W. Bell Telephone Co.....	Sept. Service, Aug. Tolls.....	Trustees	2.10
					Council	3.95
					Other Committees	1.40
					Annual Session .....	.10
					Speakers Bureau	15.45
9-26	351	5895	Western Union Telegraph Co.....	August Account	Journal	1.25
					Speakers Bureau .....	.76
9-26	352	5896	Koch Brothers	Supplies	Rent and Office Supplies.....	12.17
					Stationery and Printing.....	132.35
					Speakers Bureau	12.14
9-26	353	5897	Wallace-Homestead Co.	Printing	Journal	542.08
					Reprints	38.26
10-2	356	5900	Postmaster, Des Moines.....	Journal Postage	Journal	50.00
10-8	357	5901	Nellie M. Sharp.....	Legislative Statistical Work.....	Legislative Committee	10.15
10-15	366	5910	Cash	For Comm. on Pub. Policy.....	Legislative Committee	1,000.00
10-27	374	5918	Iowa Press Clipping Bureau.....	September Clippings	Journal	10.37
10-27	375	5919	F. P. McNamara.....	Women's Club, Cancer Talk.....	Other Committees	15.20
10-27	376	5920	Robert L. Parker.....	October Salary	General Salaries	75.00
10-27	377	5921	R. R. Simmons.....	October Salary	Journal	100.00
10-27	378	5922	Grace J. McDonald.....	October Salary	General Salaries	105.00
10-27	379	5923	Mary McCord	October Salary	Speakers Bureau	125.00
10-27	380	5924	Virginia Stewart	October Salary	Journal	125.00
					General Salaries	35.00
10-27	381	5925	Dorothy Nelson	October Salary	General Salaries	175.00
10-27	382	5926	Bankers Building Corp.....	October Rent	Rent and Office Supplies.....	90.00
10-27	383	5927	Robert L. Parker.....	Trips, Ft. Dodge, Winterset.....	County Society Services.....	13.00
10-27	384	5928	M. C. Hennessy.....	Med. Econ. Comm. Meeting.....	Med. Econ. Committee.....	20.50
					Administrative, Misc.	3.75
					Rent and Office Supplies.....	14.50
					County Society Services.....	.35
10-27	385	5929	N. W. Bell Telephone Co.....	Oct. Service and Sept. Tolls.....	Trustees	2.10
					Council	1.95
					Legislative Committee	19.05
					Annual Session	7.45
					Journal	3.15
					Speakers Bureau	30.75
10-27	386	5930	Hotel Ft. Des Moines.....	Lunches for Council.....	Council	16.32
					Annual Session	7.91
10-27	387	5931	Postal Telegraph Co.....	Wire from Davenport.....	Speakers Bureau .....	.58
10-27	388	5932	Direct Advertising, Inc.....	Legislative Work	Legislative Committee	8.16
10-27	389	5933	Addressograph Company	Machine Inspection	Rent and Office Supplies.....	3.50
10-27	390	5934	Western Union Telegraph Co.....	September Account	Legislative Committee	1.42
					Speakers Bureau	2.52
10-27	391	5935	Central Engraving Co.....	Halftones	Journal	44.82
10-27	392	5936	Dutcher, Walker & Ries.....	Third Quarter	Medico Legal Comm.	136.70
10-27	393	5937	C. A. Boice.....	Council Expense	Council	82.80
					Rent and Office Supplies.....	23.45
10-27	394	5938	Koch Brothers	Supplies and Printing.....	Stationery and Printing.....	222.50
					Legislative Committee	2.30
					Journal	15.00
					Speakers Bureau	31.52
10-27	395	5939	Wallace-Homestead Co.	Printing	Journal	555.42
					Reprints	220.79
					Legislative Committee	4.59
10-27	396	5940	Cash	Office Postage	Rent and Office Supplies.....	10.00
11-23	419	5963	Cash	Postage	Rent and Office Supplies.....	15.00
11-25	420	5964	Iowa Press Clipping Bureau.....	Clippings	Journal Printing	13.80
11-25	421	5965	LaVere Braught Floral Co.....	Flowers	Administrative, Misc.	20.90
11-25	422	5966	D. M. Clean Towel Service.....	Towel Service	Rent and Office Supplies.....	3.75
11-25	423	5967	Robert L. Parker.....	November Salary	General Salaries	75.00
11-25	424	5968	R. R. Simmons.....	November Salary	Journal Printing	100.00
11-25	425	5969	Grace McDonald	November Salary	General Salaries	105.00
11-25	426	5970	Mary McCord	November Salary	Speakers Bureau	125.00
11-25	427	5971	Virginia Stewart	November Salary	General Salaries	35.00
					Journal	125.00
11-25	428	5972	Dorothy Nelson	November Salary	General Salaries	175.00
11-25	429	5973	Bankers Trust Bldg. Co.....	November Rent	Rent and Office Supplies.....	90.00
11-27	430	5974	D. M. Nelson.....	Conference—Chicago	Administrative, Misc.	32.35
11-27	431	5975	Robert L. Parker.....	Medical Conference	Administrative, Misc.	17.88
11-27	432	5976	John I. Marker.....	Trustees Meeting	Trustees	19.90
11-27	433	5977	Central Engraving Co.....	Halftones	Journal	24.13
11-28	434	5978	C. W. Ellyson.....	Travel	Council	22.90
11-28	435	5979	James E. Reeder.....	Travel	Council	21.31
					Office	13.78
					Council .....	.60
11-28	436	5980	N. W. Bell Telephone Co.....	Telephone	Legislative	3.55
					Annual Session .....	.95
					Journal	4.30
					Speakers Bureau	11.75
11-28	437	5981	Western Union Telegraph Co.....	Telegraph	Speakers Bureau .....	.90
					Legislative .....	.50
11-28	438	5982	Koch Brothers	Supplies	Rent and Office Supplies.....	15.01
					Stationery and Printing.....	39.52
					Legislative	113.49
					Stationery and Printing.....	9.95
11-28	439	5983	Wallace-Homestead Co.	Printing	Journal	583.37
					Reprints	29.79
12-22	457	6001	Iowa Press Clipping Bureau.....	Clippings	Journal	12.07
Amount Forward.....						\$27,836.07

Schedule No. 2
EXPENDITURES—SPEAKERS BUREAU
For the Year Ended December 31, 1936

1936	Check	No.	No.	Drawn in Favor of	In Payment of	Distribution	Amount
1-16	24	5542		M. E. Barnes, M.D.	Radio Talks	Radio Talks	\$ 5.25
1-16	25	5543		P. E. Gibson, M.D.	Travel Expense	Travel	3.65
1-16	1	5544		Railway Express Co.	Express	Miscellaneous	2.25
1-16	2	5545		Cash	Postal Cards	Post Graduate	10.00
1-16	26	5546		Julian M. Bruner, M.D.	Travel Expense	Travel	3.50
1-16	27	5547		J. C. Kessler, M.D.	Travel Expense	Travel	7.45
1-16	28	5548		W. L. Downing, M.D.	Travel Expense	Travel	6.50
1-24	29	5550		W. W. Bowen, M.D.	Travel Expense	Travel	14.75
1-24	30	5551		F. N. Cole, M.D.	Travel Expense	Travel	3.10
1-25	31	5574		A. W. Erskine, M.D.	Travel Expense	Office Supplies	10.00
1-25	32	5575		John C. Parsons, M.D.	Travel Expense	Travel	7.70
2-5	34	5577		Paley Rubin, M.D.	Travel Expense	Travel	20.35
2-13	38	5581		J. E. Dyson, M.D.	Travel Expense	Travel	12.20
2-13	39	5582		Cash	Post Cards	Office Supplies	10.00
2-13	40	5583		E. D. Plass, M.D.	Travel Expense	Travel Expense	3.75
2-13	41	5584		D. J. Glomset, M.D.	Travel Expense	Travel	21.50
2-13	42	5585		Cecil Jones, M.D.	Travel Expense	Travel	10.50
2-19	47	5590		Dick Hull	Radio Talks	Radio Talks	6.00
2-21	48	5591		Cash	Post Cards	Office Supplies	10.00
2-27	60	5616		M. B. Call, M.D.	Travel Expense	Travel	12.00
2-27	61	5617		Burkett Updegraff Motor Co.	Travel Expense	Travel	8.89
3-3	76	5619		F. P. McNamara, M.D.	Travel Expense	Travel	4.40
3-3	77	5620		Burkett Updegraff Motor Co.	Travel Expense	Post Graduate	33.18
3-10	78	5621		J. Earle Galloway	Travel Expense	Radio Talk	3.10
3-10	79	5622		D. J. Glomset, M.D.	Travel Expense	Post Graduate	50.00
3-10	80	5623		H. W. Morgan, M.D.	Travel Expense	Post Graduate	27.25
3-20	81	5624		John I. Marker, M.D.	Travel Expense	Travel	8.30
3-20	82	5625		W. W. Herrmann, M.D.	Travel Expense	Post Graduate	24.25
3-20	83	5626		T. U. McManus, M.D.	Travel Expense	Travel	13.05
3-20	84	5627		J. M. Bruner, M.D.	Travel Expense	Travel	8.30
3-27	91	5634		E. M. Myers, M.D.	Travel Expense	Travel	14.40
3-27	92	5635		F. R. Peterson, M.D.	Travel Expense	Post Graduate	8.17
3-27	93	5636		Fred Liechti	Travel Expense	Post Graduate	9.60
3-27	94	5637		Lucille Gripp	Travel Expense	Radio Talks	9.50
3-27	95	5638		Mary L. McCord	Travel Expense	Travel	3.10
3-27	96	5639		W. D. Paul, M.D.	Travel Expense	Post Graduate	24.10
3-27	97	5640		W. M. Fowler, M.D.	Travel Expense	Post Graduate	7.60
3-31	98	5641		H. M. Kornis, M.D.	Travel Expense	Post Graduate	7.50
3-31	99	5642		J. I. Marker, M.D.	Travel Expense	Travel	7.50
4-3	122	5665		Dr. Kate Dorem	Travel Expense	Travel	5.00
4-3	123	5666		John I. Marker, M.D.	Travel Expense	Travel	1.60
4-3	124	5667		Florence Johnston, M.D.	Travel Expense	Travel	2.60
4-3	125	5668		M. E. Barnes, M.D.	Radio Talks	Radio	5.25
4-10	126	5669		H. W. Rathe, M.D.	Travel Expense	Post Graduate	22.50
4-10	127	5670		Carl E. Sampson, M.D.	Travel Expense	Travel	5.95
4-10	128	5671		L. G. Ericksen, M.D.	Travel Expense	Travel	7.75
4-16	130	5673		Phillips Thygeson, M.D.	Travel Expense	Travel	20.10
4-16	131	5674		I. H. Borts, M.D.	Travel Expense	Post Graduate	3.75
4-20	132	5675		Dick Hull	Radio Talks	Radio	6.00
4-20	133	5676		D. J. Glomset, M.D.	Travel Expense	Post Graduate	14.71
4-20	134	5677		John C. Parsons, M.D.	Travel Expense	Post Graduate	4.50
4-20	135	5678		F. H. Lamb, M.D.	Travel Expense	Post Graduate	13.58
4-20	136	5679		Burkett Updegraff Motor Co.	Travel Expense	Post Graduate	30.71
4-20	137	5680		T. U. McManus, M.D.	Travel Expense	Travel	17.69
5-6	159	5702		James A. Mueller, M.D.	Travel Expense	Travel	3.70
5-6	160	5703		T. U. McManus, M.D.	Telephone Call	Miscellaneous	1.99
5-6	161	5704		F. P. McNamara, M.D.	Travel	Cancer Committee	11.40
5-6	162	5705		L. R. Woodward, M.D.	Travel	Travel	15.35
5-6	163	5706		P. C. Jeans, M.D.	Travel	Post Graduate	7.50
5-27	179	5751		D. J. Glomset, M.D.	Travel	Travel	8.50
5-27	180	5752		F. P. McNamara, M.D.	Travel	Post Graduate	21.74
5-27	181	5753		E. D. Plass, M.D.	Travel	Travel	4.60
6-18	223	5767		Cash	Post Cards	Printing and Stationery	10.00
6-18	224	5768		H. W. Morgan, M.D.	Travel Expense	Travel	3.00
6-18	225	5769		Iowa Memorial Union	Travel Expense	Miscellaneous	5.20
6-18	226	5770		Mary L. McCord	Travel Expense	Travel	12.55
6-18	227	5771		M. E. Barnes, M.D.	Radio Talks	Radio	5.25
7-2	258	5802		Dr. Kate Dorem	Travel Expense	Radio	14.36
7-2	259	5803		L. G. Ericksen, M.D.	Travel Expense	Cancer Committee	20.00
7-2	260	5804		A. W. Erskine, M.D.	Travel Expense	Cancer Committee	12.50
7-2	261	5805		D. J. Glomset, M.D.	Travel Expense	Travel Expense	93.70
7-20	263	5807		D. J. Glomset, M.D.	Post Graduate Expense	Post Graduate	135.00
7-20	264	5808		C. A. Boice, M.D.	Rent—Country Club	Post Graduate	32.00
7-28	285	5829		Thomas McMahan, M.D.	Dinners	Post Graduate	40.00
7-28	286	5830		Dr. D. W. Morehouse	Travel	Travel	17.60
7-28	287	5831		H. W. Morgan, M.D.	Travel	Travel	3.50
8-18	288	5832		Richard Hull	Radio	Radio Talks	6.00
8-18	289	5833		D. J. Glomset, M.D.	Travel Expense	Travel	20.00
8-18	290	5834		G. D. Jenkins, M.D.	Travel Expense	Travel	16.10
8-21	291	5835		J. D. Boyd, M.D.	Printing	Post Graduate	30.79
8-26	292	5836		D. J. Glomset, M.D.	Travel Expense	Post Graduate	84.85
8-26	293	5837		Cash	Post Cards	Miscellaneous	10.00
9-11	319	5863		James Dunn, M.D.	Travel Expense	Travel	38.00
9-11	320	5864		Geo. H. Keeney, M.D.	Travel Expense	Travel	10.00
9-11	321	5865		James C. Hill, M.D.	Travel Expense	Travel	10.50
9-11	322	5866		F. A. Hennessy, M.D.	Travel Expense	Travel	20.00
9-11	323	5867		Cash	Postage and Cards	Miscellaneous	17.65
9-25	354	5898		Dick Hull	Radio Talks	Radio	6.00
9-25	355	5899		M. E. Barnes, M.D.	Radio Talks	Radio	5.25
Amount Forward.....							\$ 1,368.31

Schedule No. 2—Continued

Date	Check	Order	Drawn in Favor of	In Payment of	Distribution	Amount
1936	No.	No.		Amount Brought Forward.....		\$ 1,368.31
10-12	358	5902	B. F. Wolverton, M.D.....	Travel Expense.....	Travel	5.60
10-12	359	5903	American Medical Assn.....	Medical Blanks	Miscellaneous	1.50
10-12	360	5904	E. E. Shaw, M.D.....	Travel Expense	Travel	13.50
10-12	361	5905	D. J. Glomset, M.D.....	Travel Expense	Travel	7.30
10-12	362	5906	E. M. Myers, M.D.....	Travel Expense	Travel	11.50
19-12	363	5907	S. D. Maiden, M.D.....	Post Graduate Travel Expense.....	Post Graduate	17.00
10-12	364	5908	John I. Marker, M.D.....	Travel Expense	Travel Expense	4.00
10-12	365	5909	John C. Parsons, M.D.....	Travel Expense	Travel	7.80
10-26	367	5911	Loyal Davis, M.D.....	Travel Expense	Post Graduate	25.00
10-26	368	5912	D. J. Glomset, M.D.....	Travel	Post Graduate	20.00
10-26	369	5913	W. M. Fowler, M.D.....	{ Travel	Travel	8.20
				{ Travel Expense	Post Graduate	7.00
10-26	370	5914	Wm. S. Middleton, M.D.....	Travel Expense	Post Graduate	22.30
10-26	371	5915	P. C. Jeans, M.D.....	Travel Expense	Post Graduate	1.40
10-26	372	5916	J. D. Boyd, M.D.....	Travel Expense	Post Graduate	5.85
10-26	373	5917	Burkett Updegraff Motor Co.....	Transportation	Post Graduate	136.39
11-9	397	5941	John C. Parish, M.D.....	Travel	Travel	9.25
11-9	398	5942	C. & N. W. Ry.....	Travel	Post Graduate	12.75
11-9	399	5943	N. M. Whitehill, M.D.....	Travel	Travel	4.50
11-9	400	5944	C. E. Sampson, M.D.....	Travel	Travel	6.10
11-9	401	5945	G. Dean Tipton, M.D.....	Travel	Travel	6.00
11-9	402	5946	Nelle Thomas Schultz, M.D.....	Travel	Travel	4.00
11-9	403	5947	Ivan T. Schultz, M.D.....	Travel	Travel	2.25
11-9	404	5948	Burkett Updegraff Motor Co.....	Transportation	Post Graduate	136.47
11-9	405	5949	M. E. Barnes, M.D.....	Radio Talks	Radio Talks	5.25
11-14	406	5950	Percival Bailey, M.D.....	Lectures	Post Graduate	15.05
11-14	407	5951	E. D. Plass, M.D.....	Travel Expense	Travel Expense	56.50
11-14	408	5952	Ruben Nomland, M.D.....	Hotel and Meals.....	Hotel and Meals.....	4.85
11-14	409	5953	Cash	Postage	Miscellaneous	10.00
11-14	410	5954	Vera Harms	Typing	Post Graduate	10.00
11-23	411	5955	H. M. Korns, M.D.....	Travel	Post Graduate	13.95
11-23	412	5956	C. J. Snitkay, M.D.....	Travel	Post Graduate	9.00
11-23	413	5957	D. J. Glomset, M.D.....	Travel	Post Graduate	18.30
11-23	414	5958	Alfred Brown, M.D.....	Expenses	Post Graduate	3.25
11-23	415	5959	R. W. Snodgrass, M.D.....	Travel	Travel Expense	17.00
11-23	416	5960	Mavis Johnson	Typing	Post Graduate	4.00
11-23	417	5961	Andrew H. Woods, M.D.....	Travel	Post Graduate	1.20
11-23	418	5962	Preston E. Gibson, M.D.....	Travel	Radio Talks	5.80
12-1	440	5984	Wm. A. O'Brien, M.D.....	Travel	Post Graduate	15.45
12-1	441	5985	Burkett Updegraff Motor Co.....	Transportation	Post Graduate	95.93
12-3	442	5986	E. L. Sevringhaus, M.D.....	Travel	Post Graduate	28.85
12-5	443	5987	W. F. Mengert, M.D.....	Travel	Travel	5.90
12-5	444	5988	J. D. Boyd, M.D.....	Travel	Travel	5.00
12-18	445	5989	D. M. Lierle, M.D.....	Travel	Post Graduate	9.80
12-18	446	5990	Burkett Updegraff Motor Co.....	Transportation	Trav. \$30.56, Post Grad. \$31.72	62.28
12-18	447	5991	Erwin Schmidt, M.D.....	Travel	Post Graduate	26.50
12-18	448	5992	Richard Hull	Radio Talks	Radio Talks	6.00
12-18	449	5993	E. T. Bell, M.D.....	Travel	Post Graduate	37.00
12-18	450	5994	M. B. Call, M.D.....	Travel	Travel	6.80
12-18	451	5995	Mary L. McCord	Travel	Travel	15.00
12-18	452	5996	James Dunn, M.D.....	Misc. and Postage	Misc. \$3.00, Post Grad. \$7.00	10.00
12-22	453	5997	Richard Jaffe, M.D.....	Travel	Post Graduate	45.00
12-22	454	5998	R. T. Woodvatt, M.D.....	Travel	Post Graduate	65.00
12-22	455	5999	C. W. Ellyson, M.D.....	Travel	Miscellaneous	3.00
12-22	456	6000	Earl B. Bush, M.D.....	Travel	Post Graduate	10.20
12-22	482	6026	Warren T. Vaughan, M.D.....	Travel	Post Graduate	79.19
12-22	483	6027	S. Marx White, M.D.....	Travel	Post Graduate	40.00
12-22	484	6028	J. A. Borghoff, M.D.....	Travel	Post Graduate	20.00
12-22	485	6029	A. W. Erskine, M.D.....	Travel	Cancer	19.16
12-30	495	6039	O. H. Plant, M.D.....	Travel	Post Graduate	7.28

TOTAL EXPENDITURES (SPEAKERS BUREAU) FOR THE YEAR 1936 (Exhibit "A").....\$ 2,631.46

Dr. Edward M. Myers: Mr. President, I move that the report of the Treasurer be accepted.

The motion was put to a vote and carried.

President Sawyer: Next is the report of the Board of Trustees.

REPORT OF THE BOARD OF TRUSTEES

It is with a distinct feeling of appreciation that the Trustees of the Iowa State Medical Society submit their report for the year 1936. This appreciation extends to the officers, the Council and all committees with which we have had to deal, because of the fine spirit of cooperation which they have exhibited. It extends to the office force in the central office in Des Moines, for the energetic way in which they have carried out the work assigned to

them. But last and far from least, it includes an appreciation of the individual efforts of every doctor in the State Society to make our Society a helpful organization to each member, and a benefit to the people we serve, for whom the best services of individual and Society alike must be rendered.

When we reached the end of the year, we found that we were ahead on nearly every item of income and that we have saved a little on nearly every item of expense. This gave to the Trustees a feeling of satisfaction that the various departments and committees were all working in a cooperative way. Because of this cooperative effort we finished the year with a somewhat better financial standing than we had on January 1, 1936.

Probably the most important question that required decision by the Trustees during the year was one with reference to the policy of the State Society

in questions of jurisdiction of the Legislative Committee. It was agreed that the jurisdiction of this Committee in legislative matters and policies is state-wide, and that it should, of course, work through and with the other Society officers whenever feasible.

The allotment out of dues to the Speakers Bureau was increased in order to enable that department to engage in educational publicity activities, according to plans which they outlined. This activity has increased the expenses of the Speakers Bureau and is the means of providing weekly health releases to the newspapers throughout the state.

At the November meeting the Board was notified that due to increased responsibilities in his other work, Dr. Ralph R. Simmons was resigning as Editor of the Journal. It was with reluctance that his resignation was accepted and after considering the situation, it was decided to appoint as new Editor Dr. Lee Forrest Hill, of Des Moines.

The Trustees, with a distinct feeling of the importance of continued activity in the fields of legislation, medical economics, and the other committees, have always stood ready to approve whatever expenses were necessary to keep Iowa in the foreground of medical organizations.

The death of Attorney C. M. Dutcher made it necessary for the State Society to seek other talent to represent our Society in medical defense matters in the state. This task fell to the members of the Medico-Legal Committee, who, after careful investigation, recommended the following appointments:

(1) That the law firm of Dutcher, Ries and Dutcher of Iowa City, Iowa, follow to completion the suits now pending in the courts which were begun prior to the death of Charles M. Dutcher.

(2) That Edwin D. Mitchell of Council Bluffs, Iowa, be employed to represent the Society in the southwest corner of the state as indicated on the map of Iowa printed below.

(3) That J. C. Gleysteen of the firm of Gleysteen, Purdy and Harper of Sioux City, Iowa, represent us in the northwest corner of the state as shown on map printed below.

(4) That Frank D. Gilloon of the firm of Gilloon and Glenn of Dubuque, Iowa, represent the Society in the northeast corner of the state as indicated on map printed below.

(5) That Frank Messer of Iowa City, Iowa, be authorized to represent our Society in the southeast corner of the state as per map.

The recommendations as submitted by the Medico-Legal Committee were unanimously approved by the Board of Trustees.

One of the duties of the Board of Trustees, as set forth in the Constitution and By-laws, is the supervision of the operation of the central office of the State Society. This office is maintained in the central location of Des Moines for the service and work of the members, committees and officers. It is just as much the office of John Jones, M.D., of Pumpkin Center as it is of the President of the State Society. It is a place in which any individual member may

have free access to any material or information on file, or any service that the office personnel is able to render.

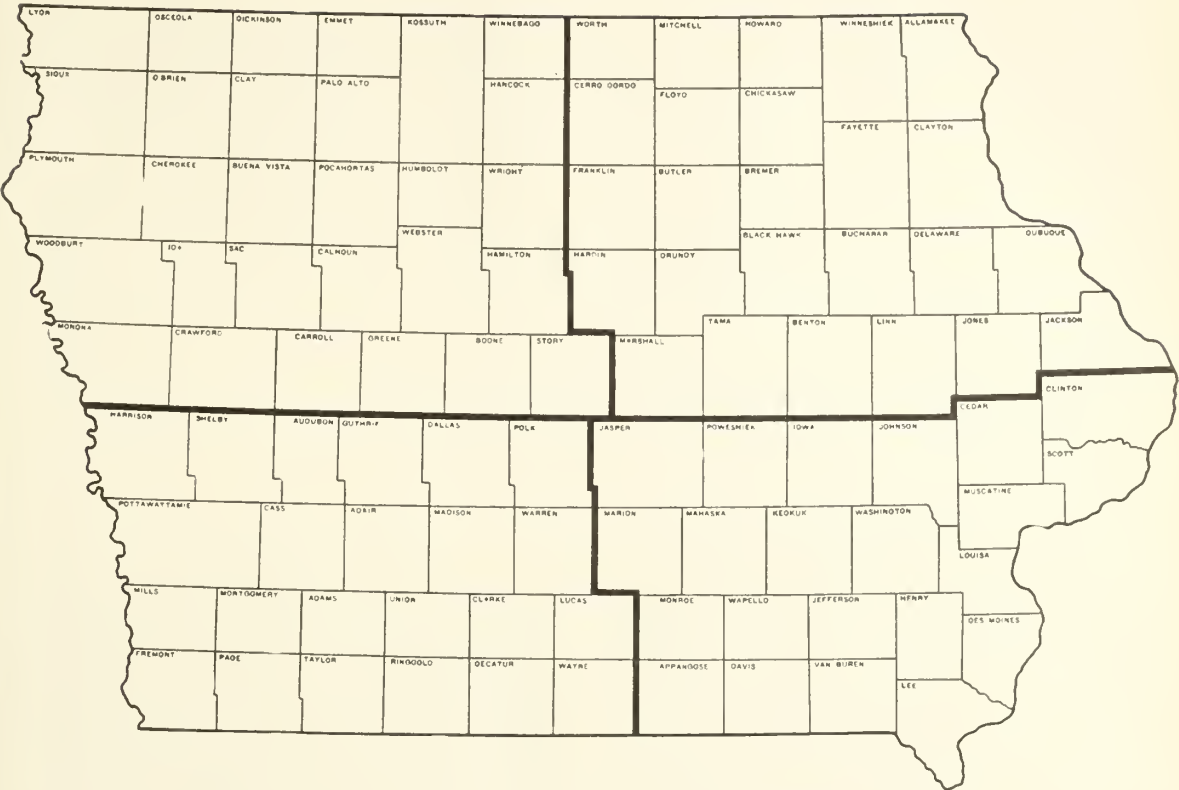
The Board feels that a brief description of the work of the office and the personnel by whom it is carried on is of interest and value to the membership in order to familiarize themselves more thoroughly with the set-up of their state organization.

Mrs. Grace J. McDonald serves in the capacity of receptionist, stenographer and membership clerk. It is she who, in her pleasant manner, greets members in person or over the phone when they contact the office, ascertains their needs and serves them or refers them to the proper source of authority. It is she, also, who is "keeper" of those vital records—membership. Give her the name of practically any doctor in the state and with unfailing exactness she will give you his address and initials and—what is more important—whether or not his dues for the current year are paid, usually without having to refer to any records.

The entire work of that ever-active Committee, the Speakers Bureau, is carried on in the central headquarters. The work is under the direction of Chairman D. J. Glomset and the other members of the Committee but is actually performed by their very efficient secretary, Mary McCord. Miss McCord is the novice of the staff in respect to the length of her association with the Society but her extensive contacts with the members she has eagerly served or enlisted services from, have made her a familiar figure in the office.

All the duties necessary to the publication of a first class publication, with the exception of the actual composition, printing and mailing, is done in the State Society office. The Journal is edited by Drs. Lee Forrest Hill, Editor, and R. R. Simmons, Associate Editor, but the supervision and management of all details are in the capable hands of the Assistant to the Editor, Miss Virginia Stewart. Veteran of the crew, Miss Stewart has been with the Society for a period of nine years and the development of the Journal of the Iowa State Medical Society into one of the highest ranking medical society publications is due in no small measure to her intelligent and conscientious services.

The work of the various departments is coordinated through the efforts of the Executive Secretary, Miss Dorothy M. Nelson. Miss Nelson is Executive Secretary for each individual officer and committee, as well as for the Society as a whole. She handles the general correspondence, supervises the membership work, attends the meetings of all committees, keeps minutes of their meetings and, under their direction, puts into execution the programs formulated by them. Her chief activities are in connection with the work of the Secretary, the President and his committee in making arrangements for the annual meeting, the Council, the Board of Trustees, the Medical Economics Committee and the Committee on Public Policy and Legislation. The time required to do the



MAP SHOWING DIVISION OF STATE FOR MEDICAL DEFENSE PURPOSES

work of this last named committee would amaze most of the members. Its Chairman, Dr. Fred Moore, is always on the job and is so energetic in the performance of his duties that it requires no small amount of activity to keep up with him and produce the work necessary to carry out the program.

The office is equipped with addressograph, multi-graph and mimeograph machines. The programs, bulletins, radio talks, lecture notes, press releases, and "little legislative magazines" which bring you word of the activities of your professional organization are prepared, printed and mailed from the central office. It is the wholehearted cooperation of the members, the officers, committees and office staff which has made possible the progressive activities of the Iowa State Medical Society.

Oliver J. Fay, Chairman
John I. Marker
John C. Parsons

Dr. Oliver J. Fay: I move that the report of the Board of Trustees be accepted.

The motion was put to a vote and carried.

President Sawyer: The report of the Council.

REPORT OF THE CHAIRMAN OF THE COUNCIL
To the House of Delegates:

Your Council met three times during the interval since the last annual session. Conditions as a whole, professionally and otherwise, seem to show some im-

provement when compared to conditions at this time last year. Organization and membership in the various districts equal or exceed that of last year.

All of the Councilors have given freely of their time and energy when called upon for special service.

In some of the rather urgent matters that have been referred to the Council for decision, we feel that much responsibility is given us with all too little authority under our present Constitution and By-laws. As a result of this there has been too much loss of time and energy on the part of the Council. One example of such matters is decisions occasioned by the broadening of Federal activities under the Social Security Act. This requires immediate decisions which cannot be delayed if organized medicine is to have a voice in the development of such programs. The vague and indefinite interpretations of our governing statutes do not give a firm enough footing for prompt and decisive action for the group represented in organized medicine in Iowa.

The reports of the various districts and counties will reflect the thought and trend of development of our county medical societies.

I wish to thank all Councilors, deputy councilors, State Society officers and the Speakers Bureau Committee for their splendid cooperation during the past year.

Felix A. Hennessy, Chairman of the Council

REPORTS FROM COUNCILOR DISTRICTS

First Councilor District

The individual reports of the counties in the first councilor district are submitted herewith.

Felix A. Hennessy, Councilor

Allamakee County. The Allamakee County Medical Society was rather inactive during 1936. Our membership was at a low point, only three physicians paying dues for the year. One member moved away.

Our medical relief plan is that of the Iowa Emergency Relief Administration. It is unsatisfactory to some of the doctors, largely because they prefer to deal directly with our county Board of Supervisors. However, for the most part, it is satisfactory.

One member from our society attended the refresher course given at Oelwein.

John W. Thornton, Deputy Councilor

Bremer County. In March of 1936, the society gave a dinner to which the physicians of neighboring counties were invited. The dinner was followed by a program provided by two guest speakers from the Mayo Clinic. There was an attendance of forty physicians. The matter of a tuberculosis survey and testing of school children was approved and the society assisted the tuberculosis association in carrying it out.

Some of the towns have carried out smallpox and diphtheria immunization programs among the school children and undoubtedly other towns will do so in the future.

The society sponsored a cancer postgraduate course, which was held in Waverly from September 17 to November 19, inclusive, and was attended by sixty-four physicians.

At the annual meeting in December, when the officers for the ensuing year were elected, a dinner was served by the local hospital and a social evening was enjoyed by the physicians and invited physician guests.

E. C. Kepler, Deputy Councilor

Chickasaw County. About two meetings of the Chickasaw County Medical Society were held in 1936. We lost one member through death and two physicians through removal. One doctor re-located in the county, and is a member in good standing.

Our medical relief set-up is only questionably satisfactory.

Four or five members of the society attended the postgraduate course given at Waverly.

The physicians in Nashua conducted diphtheria immunization programs in several rural districts.

Paul E. Gardner, Deputy Councilor

Clayton County. There was an increase of five in the membership of the county society over that of the preceding year. One new physician located in the county, taking the place of one that moved away.

The county society adopted the Iowa Emergency

Relief schedule of fees for medical and surgical care of the indigent and very low income groups. Although the fees are very low, the plan seems to work more satisfactorily than the haphazard manner of payment of indigent fees in force previous to its adoption.

The society had one scientific program and two business meetings during the year, including a special meeting in October for the discussion of the legislative program.

J. W. Hudek, Deputy Councilor

Fayette County. There were six meetings of our county society during the year. We did not hold county society meetings during the time the cancer course was given at Waverly. A few of our members attended the course.

The wives of the physicians have met but no definite auxiliary was formed.

C. C. Hall, Deputy Councilor

Floyd County. All eligible physicians of Floyd County are active members of the county society. One new member located here during the year.

The medical care of the county poor continues to be handled satisfactorily on the percentage basis of the regular fee schedule.

Regular monthly scientific meetings are held the fourth Tuesday of each month at the Cedar Valley Hospital in Charles City.

Several of our members attended the postgraduate courses held in Oelwein and Waverly.

A new \$120,000 City Hospital is nearing completion in Charles City.

Ray A. Fox, Deputy Councilor

Howard County. There was only one meeting of the Howard County Medical Society in 1936. Our membership is one less than it was last year as one of our former members has moved away. However, our membership is still one hundred per cent.

Our medical relief set-up is working satisfactorily; so far all bills have been paid without any cut and as far as I can determine there is no dissatisfaction.

Four of our members registered at the last meeting of the International Postgraduate Assembly in the Twin Cities. Four attended the postgraduate course at Waverly.

We have a woman's auxiliary but it is not active.

Wm. A. Bockoven, Deputy Councilor

Mitchell County. Our county society had eight meetings during the year, seven of which were scientific and one social. One new member was added to our society in 1936.

Our medical relief set-up in Mitchell County has been rather satisfactory, and is the same that has been in force the last two or three years.

Five members attended the postgraduate course at Charles City and two the fall course offered at Rochester, Minnesota.

During the fall months, measures were taken to insure a tuberculosis survey of the county in the year 1937.

T. S. Walker, Deputy Councilor

Winneshiek County. Our society has been having its regular monthly meetings, which are devoted mostly to business discussions pertaining to the problems of organized medicine in our county. At the last meeting, it was decided that we should avail ourselves to a greater extent of the use of movie films. Also at the last meeting it was voted that we would continue to take care of the indigent through the plan of the county relief office. While the ways and means of remunerating physicians for the care of these people has always been a difficult problem, it was deemed that the present method is a lesser evil than when we were dealing with the county Board of Supervisors.

On the whole, harmony is prevailing among the physicians. All are upholding the dignity of our profession and working for the good of their patients.

Arthur F. Fritchen, Deputy Councilor

Second Councilor District

The affairs of organized medicine in the second councilor district have pursued a very quiet, uneventful course during 1936. All the county societies have not been visited by the councilor but everything was going so smoothly that there has been no occasion for it.

The care of the indigent in all counties is on the basis of an agreement with the board of supervisors of the county. The arrangements differ somewhat but the doctors in all the counties have expressed the opinion that they are satisfied with the arrangements. Two of the counties that have tried state and federal relief are thoroughly happy to be again dealing with the problem locally. It is the opinion of the councilor that an arrangement with the county board of supervisors, whatever it may be, is the best method of handling the medical care of the indigent.

All county societies have not had scientific programs, but practically all the physicians of the district have opportunity to attend meetings in other counties and most of them do. There was one postgraduate course given in the district during the year—the refresher course at Garner during the summer.

L. R. Woodward, Councilor

Butler County. The Butler County Medical Society is still quiescent. We had no new members, no removals, no deaths. We have no definite set-up for the medical care of the indigent. We try to get in touch with the Board of Supervisors and have them authorize the care of the individual cases. The arrangement has been fairly satisfactory.

We held few county society meetings in 1936 and had no scientific programs. However, a number of members attended the postgraduate course at Waverly. The members in the southern part of the county are fairly regular attendants at the Black Hawk County programs and those in the northern part attend the Floyd County Society monthly programs.

A few members have made talks on medical sub-

jects to lay organizations. We have had no organized immunization campaigns. There is no woman's auxiliary. We had one interprofessional association meeting.

M. B. Call, Deputy Councilor

Cerro Gordo County. We have added four new members to our list this year, and two of our members have moved away. We lost one of our members through death.

Our medical relief set-up consists of a contract with the Board of Supervisors on a fifty per cent fee basis and this is very satisfactory to all concerned.

A number of our members attended the postgraduate courses at Charles City and Garner during the past year. Our public health program consisted of pre-school examinations at the Y. W. C. A. under the sponsorship of the Parent-Teacher Association. Several radio talks were given by our members.

Nothing has been done in this county regarding interprofessional organization; although it has been discussed often there does not seem to be much enthusiasm about such an organization. The woman's auxiliary is functioning fairly well; they hold meetings at the same time that the doctors hold their monthly meetings.

I would say that the Cerro Gordo County Medical Society is functioning very well in all its divisions and the spirit of cooperation is decidedly manifest. I believe that the fact we are doing the indigent work of the county on a fifty per cent fee basis and dividing the fees equally among the various members adds to the cohesiveness of the men in our society.

W. E. Long, Deputy Councilor

Franklin County. Two new members have been taken into our society in the past year.

The county relief work has been done for a lump sum provided from our county poor fund and divided equally among the doctors according to the amount of work done. This arrangement has been as satisfactory as anything we have tried.

Two members of our society have taken special postgraduate work the past year.

We have had no county programs in the way of lectures, etc., but had an immunization program for the county, inoculating the children against scarlet fever and diphtheria.

The society has had four meetings during the year. We have not been very active but since we have a small society it is difficult to develop a very interesting program unless we unite with some other county society for that purpose.

J. C. Powers, Deputy Councilor

Hancock County. We lost one member through removal and gained two—one moving here from another county and one new physician locating here.

We do not have a definite contract with our Board of Supervisors for the medical care of the indigent in the county but the Board pays these bills. The arrangement is working satisfactorily.

Most of our members took advantage of the re-

fresher course which was held in Garner last year. In addition to that we had a chest clinic.

Along the lines of public health, we carried out a diphtheria immunization campaign in the entire county.

In addition to the meetings of our refresher course, we had a special meeting devoted to a discussion of the Social Security Act.

Thomas McMahon, Deputy Councilor

Humboldt County. Two physicians transferred their membership from our county to the Pocahontas County Medical Society.

Indigent patients are cared for in accordance with a fee schedule adopted by the county society and the Board of Supervisors.

Public health projects: Active diphtheria immunization was carried out in the schools at Gilmore, Humboldt, Dakota City, Livermore and Ottosen. Tuberculin tests, under the auspices of the Iowa Tuberculosis Association, were conducted at Gilmore, Ottosen, Humboldt and Dakota City. Two active cases of tuberculosis were found in school children in the county. Recently the school children of Humboldt, Gilmore and Dakota City were vaccinated against smallpox.

Talks were given to lay audiences by Humboldt county physicians, sponsored by the Speakers Bureau of the State Society and the Tuberculosis Association. Groups at Algona, Luverne, Mallard, Eagle Grove and Lake Mills were addressed. A Red Cross first aid class was conducted this winter by one of our members.

Ivan T. Schultz, Deputy Councilor

Kossuth County. We have eighteen physicians eligible for membership. Of that number, fifteen were members in good standing in 1936. We lost three members, two by death and one by removal from the county.

In our county the indigent have the privilege of choosing their own doctor, who must be authorized to treat the family by the county welfare worker. The bills are paid according to a fee schedule which has been approved by our Board of Supervisors. The plan is working satisfactorily except for the welfare worker, who is no longer with us.

We have had no postgraduate courses in this county but our members have attended those given in adjacent counties.

A program of immunization of all school children against diphtheria was conducted and several of our members have given medical talks to lay groups. There is no activity in this county toward the organization of an interprofessional group nor do we have a woman's auxiliary.

C. H. Cretzmeyer, Deputy Councilor

Winnebago County. The membership status of Winnebago County has remained the same during the past year as for the previous year. For the medical care of the indigent the county Board of Supervisors pays one half of the fees set out in the schedule recommended by the State Society Medical

Economics Committee. Hospitalization is paid for at the rate of \$4.00 per day. X-ray, anesthetic, and operating room charges are one-half the regular rate. The patient is allowed to choose his own doctor. The arrangement has been entirely satisfactory.

Most of the physicians in the county attended the refresher course given at Garner.

We cooperated with the State Department of Health in the diphtheria immunization campaign and with the American Legion in a similar local program in Forest City. A few radio talks and health talks before lay groups have been given by our members.

We have an interprofessional organization in the process of development but there does not seem to be enough interest to organize a woman's auxiliary.

T. J. Irish, Deputy Councilor

Worth County. The Worth County Medical Society manifest good health but little activity during the past year. The seven eligible physicians of the county are all members of the society. Last year we had eight. One member located in the county, one moved away and one died during the year. The society held three business and social meetings during the past year but no scientific meetings. The small membership of our society makes this type of meeting impractical if not impossible.

Our medical relief set-up has been quite satisfactory. The indigent gets to choose his own physician, with the approval of the relief office, and our fee schedule is fair and satisfactory.

One member attended a postgraduate course.

We undertook no immunization program during 1936 because ninety per cent of those in the county were immunized against diphtheria two years ago. A less complete but quite successful smallpox program was also carried out a few years ago.

We have neither an interprofessional organization nor a woman's auxiliary in Worth County.

S. S. Westly, Deputy Councilor

Wright County. The membership status of the Wright County Medical Society has remained the same during the past year. For the two men who left the county, we have two new physicians who located here.

The plan for the medical care of the indigent in our county is as follows: the Board of Supervisors pays the bills submitted by the doctors on the basis of the fee schedule set up by the Iowa Emergency Relief Administration. A committee of three physicians audits all the bills. The arrangement is working satisfactorily.

Our society has monthly meetings for the purpose of scientific discussions.

We have undertaken no public health programs during the past year.

J. H. Sams, Deputy Councilor

Third Councilor District

The third councilor district has had a splendid year. All of the nine counties have been visited by the councilor. O'Brien, Sioux, Lyon and Osceola

counties have had full time public health service. This service is directed by the State Department of Health, through its district unit now located at Cherokee. So far this new service has proved highly satisfactory, both to the profession and the laity. We hope that by next year all of the counties in the third district will have full time public health service.

In December the third and fourth councilor districts sponsored a cancer program under the auspices of the Woodbury County Medical Society. Dr. Max Cutler of Chicago was the principal speaker. He showed a large series of pictures depicting remarkable results in the treatment of cancer by early x-ray and radium applications. The meeting was well attended and greatly appreciated by all the doctors present.

The third district all gave full endorsement of the program of the Women's Field Army of the American Society for the Control of Cancer. The campaign has been directed in this district by Mrs. Charles C. Collesler of Spencer.

An eight-lecture postgraduate course was given at Sheldon last fall by the Speakers Bureau. The course was well attended and those taking advantage of it were so well pleased that they are asking for another course this coming spring.

The reports of the activities of each individual county society have been prepared by the deputy councilors and are submitted herewith.

F. P. Winkler, Councilor

Clay County. Two new physicians have located in the county during the past year. One has been received as a member by demit.

Our medical relief set-up is as follows: The physicians of the county enter into a contract with the county Board of Supervisors to provide medical aid to those on relief in the county, for the lump sum of \$300. The physicians furnish all medical service and drugs except serums, liver extract, and insulin, which is furnished by the county. The county also agrees to pay one-third of the fee schedule recommended by the Medical Economics Committee of the State Medical Society for surgical emergencies. The bills are audited and prorated each month by a committee of physicians. This arrangement has some disadvantages.

The county medical society sponsored the tuberculin testing of school children in the county. X-ray pictures were taken of those reacting to the tuberculin test.

A number of health talks to lay groups have been made by various members of the society. There has been a movement toward organizing an interprofessional group.

J. M. Sokol, Deputy Councilor

Dickinson County. There are twelve physicians in this county and all but one of them belong to the society. Two new members were taken into the society in 1936. We have had twelve meetings in the past year—scientific, business, etc.—all of which were fairly well attended.

This last year the society undertook the program of immunizing school children in all schools against diphtheria. Next fall we plan to carry out a similar program for smallpox vaccination.

The medical care of the indigent is still being provided on the fee bill basis in our county.

C. G. Nicholson, Deputy Councilor

Emmet County. The Emmet County Medical Society has one hundred per cent membership. As a society we have taken active part, jointly with the Dickinson County Medical Society, in monthly scientific meetings, alternating between Spirit Lake and Estherville as meeting places. Every other month outside talent was used for the programs and the remaining programs were furnished by individual members of the two societies. The material for the programs was made practical for the general practitioner.

M. T. Morton, Deputy Councilor

Lyon County. Our 1936 membership was one hundred per cent. We lost one member by removal but there have been no deaths. We have held monthly meetings which were well attended. The meetings were largely of a social nature but economic, scientific and political subjects were freely discussed.

Four of our members attended the postgraduate lectures at Sheldon.

As has been our custom, we donated our services in the summer to the pre-school clinics. In addition, in conjunction with the county nurse and assisted by many willing volunteers, including the cooperation of the county superintendent of schools, we held very satisfactory county wide smallpox and diphtheria immunization programs last spring. In the fall we followed this up with a Schick testing program. The city of Rock Rapids has for the past several years provided free antitoxin and vaccine and Schick testing material for its children. It has also paid the medical fee for the administration of these protective measures to the indigent.

L. L. Corcoran, Deputy Councilor

O'Brien County. One of the most important activities in our county during the past year was the short postgraduate course of eight lectures, given at Sheldon during September, October and November. We feel greatly indebted to the Speakers Bureau for arranging these splendid meetings.

Two other meetings of interest to the society were held in the fall, one to consider the subject of federal aid to the county and other local projects. The other meeting was called to present for discussion the subject of a county nurse and health program.

The outbreak of a few cases of smallpox in the southern part of the county stimulated an immunization drive early this spring.

W. R. Brock, Deputy Councilor

Osceola County. The Osceola County Medical Society enjoyed one hundred per cent membership in 1936. No new physicians moved into the county and we lost one member through death. Meetings were

held quarterly; the programs were both scientific and social.

A county wide smallpox and diphtheria immunization program was carried out with the help of the county health nurse. Osceola County is a member of the northwest district health unit and has a very good county health nurse. We feel this is a distinct advantage both to the laity and the medical profession. This county has also taken a very active part in promoting the national cancer control campaign sponsored by the Women's Field Army.

The members of the society entered into an agreement with the county Board of Supervisors whereby the latter pay for 75 per cent of the medical services for indigent patients and 66% of the surgical and obstetrical services.

Frank Reinsch, Deputy Councilor

Palo Alto County. The membership total of our society for 1936 was twelve. One member moved away during the year. All physicians in the county, except one, are members of the society. The county medical society met approximately ten times during the year. On two or three different occasions they had as their guests the members of the hospital Board.

No postgraduate courses were held in the county but considerable public health work was done. An immunization program of the school children was conducted in May; a chest clinic was held in July; members of the society cooperated in the summer round-up in August and cooperated with the Farm Bureau in examining the members of the boys and girls 4-H Clubs. Two or three of our members have on several occasions given health talks over the radio, to women's clubs, parent-teacher associations, etc.

Fees have been adjusted with the county Board of Supervisors for the medical care of the indigent in the county.

Harold L. Brereton, Deputy Councilor

Pocahontas County. Every eligible physician in the county is a member of the county society. Five new physicians located in the county during the year, all of whom became members. We lost one member by removal and one by death. We have one life member in our county.

We had about nine meetings of our county society during the year; these meetings were both scientific and business sessions, with an attendance of about fifteen or twenty per cent of the members.

About ten members of our county society attended postgraduate courses during 1936.

We have the same agreement in effect between the members of our county society and our Board of Supervisors for the medical care of the indigent as we did in 1935.

Members of our society cooperated in diphtheria and smallpox immunization programs.

J. H. Hovenden, Deputy Councilor

Sioux County. Four meetings of the Sioux County Medical Society were held in 1936. Our regularly

elected secretary moved away during the year and Dr. C. B. Murphy acted as secretary the remainder of the year.

The choice of cooperating in the tuberculin testing program was left to the individual doctor, in case he wished to put it on in connection with some local organization. The district health unit and the county nurse proposition was discussed at two meetings of the society. It was finally agreed that the tuberculosis Christmas seals were to provide the funds for hiring the county nurse. As a result, this county is a part of this district health unit.

An agreement was entered into with the county Board of Supervisors, setting forth the same fees for indigent medical care as prevailed in 1935.

We have an interprofessional group but it has been inactive during the past year.

John G. de Bey, Deputy Councilor

Fourth Councilor District

Submitted herewith are the reports of the deputy councilors in the fourth councilor district. As councilor, I wish to express my appreciation for the cooperation which the deputy councilors have given, particularly toward the organization of the Women's Field Army for the Control of Cancer. Due to our economic situation in this district, it has been very difficult to get the lay public interested in this program. However, it looks as if the quota set for this district will be reached.

James E. Reeder, Councilor

Buena Vista County. The Buena Vista County Medical Society has put in a busy year. We have seventeen active members in our society and one retired physician. There are two elderly physicians in the county who have been active members in the past but who have been inactive recently. One new physician located in the county during the year, who joined the society, and we lost one member who moved from the county.

A good representation of the society attended the district meetings held at Spencer and at Cherokee in regard to the district health unit being proposed under the provisions of the Social Security Act. We had four meetings of our local society during the year.

We are now entering into the cancer control program. We have had four immunization programs during the year. We are affiliated with the Four-County Society and the Twin Lakes Medical Society.

H. E. Farnsworth, Deputy Councilor

Cherokee County. There has been no change in our membership status during the past year. Two new members located in the county and two members moved away. Our society held meetings every month during 1936, meeting on the third Monday in each month. One or more scientific papers, a discussion of same and case reports constitute the program for each meeting.

The medical plan of the Iowa Emergency Relief Administration has proved very unsatisfactory in

this county. We are about to adopt a fee schedule for indigent work which is higher than the Relief Worker will approve. Every physician in the county will agree to this fee schedule and refuse services unless the fee is approved. This schedule is based upon fifty per cent of the regular fee schedule recommended by the Medical Economics Committee of the State Society.

Two of our members have taken postgraduate work during the past year.

Our county society sponsored an immunization program in the county during the past year. An interprofessional group is now in the process of organization. We have a woman's auxiliary but it is not functioning.

Chester H. Johnson, Deputy Councilor

Crawford County. The membership in our county has not undergone any change during the past year. All officers were elected to hold over with the exception of our delegate. Our regular county society meetings have been held but we have had no postgraduate courses. A number of our members have attended various medical meetings outside the county and we have now voted to join the Twin Lakes Medical Society. Postgraduate courses have been considered several times and we are now trying to work out a very good program.

Since the beginning of the last school year, a number of our members have conducted lectures on various medical subjects to the students of high schools all over the county. These talks have undoubtedly found favor, for we have had several requests for reprints, one coming from a physician in East India. The speakers and their subjects were:

Heart Diseases and How to Prevent Them—H. D. Jones, Schleswig.

Epidemic Contagious Diseases and Their Complications—Dora E. Zaeske, Charter Oak.

Care of the Digestive Tract—T. L. Vineyard, Dow City.

Kidney Infections in Young Adults—E. M. Marks, Manilla.

Tuberculosis in High School Age Youth—C. A. Soe, Manilla.

Immunizations That Are Successful—G. K. Fair, Denison.

Functions and Dysfunctions of Our Ductless Glands—C. L. Sievers, Denison.

Epidemic Infections of the Brain and Spinal Cord—A. H. Grau, Denison.

Venereal Infections in the Male and Female—J. J. Duffy, Denison.

Smallpox and diphtheria immunization programs for our school children are conducted almost continually.

Until the present time our society has been conducting medical relief work under the plan of the Iowa Emergency Relief Administration, which has been very successful as far as the service to the patient is concerned. However, because of the al-

most constant "cut" of fees below the agreed fee bill, the society voted to discontinue the plan on April 1, 1937.

The proposed tuberculin testing program was presented for discussion at one meeting and was not accepted.

C. L. Sievers, Deputy Councilor

Ida County. All eligible physicians of Ida County were members in good standing in 1936. Three members of our county are now life members of both the county and the state.

The medical relief work is handled in this county by an agreement between the county society and the county Board of Supervisors. There is a fixed maximum fee for surgical cases. All other cases are assigned by the social worker and are usually assigned to the physician of the patient's choice. The bills, which are rendered monthly, show the usual charges as listed on the fee bill of the county society. In making payment, the Board of Supervisors deducts an agreed discount for relief cases. The same discount is in force for soldiers' relief cases. The arrangement is satisfactory.

With one exception, every member of this society attended the postgraduate course given at Cherokee in 1935. No such courses were given in this area in 1936. Members of the society were attendants at various medical meetings, however, within and without the state. One member of our society became one of the medical staff of the Iowa State Department of Health.

A diphtheria immunization program was carried out in the city schools. The State Department of Health furnished the toxoid and all members of the society participated in the work. The fee of one dollar per inoculation was paid by the school boards, and the money was equally divided among the physicians participating. Rural school pupils were required to pay the costs of the service to remunerate the city school boards. Lectures to women's clubs were given in two towns in the county by speakers selected by the Speakers Bureau.

The question of organizing an interprofessional group is now being considered by the various professional groups affected.

The organization of a woman's auxiliary has been discussed but has not been undertaken.

E. S. Parker, Deputy Councilor

Monona County. We have a one hundred per cent membership in our county.

Medical relief is handled by the county society for the lump sum of \$600.00 per month, which pays about seventy-five per cent of the bills. The society cooperates in an effort to keep all possible relief work in our county hospitals. A committee of three members from the county medical society, together with a representative of the pharmacists, audits all bills and absorbs all the complaints from those presenting them. This arrangement is very popular with the County Board of Supervisors.

E. C. Junger, Deputy Councilor

Plymouth County. Monthly meetings, with the exception of July and August, of the Plymouth County Medical Society have been held at the Sacred Heart Hospital, at the conclusion of the staff meetings. An outstanding joint meeting of the county medical society with the staff of the Sacred Heart Hospital was the occasion of the presentation of papers by Drs. D. W. Wilbur and J. T. Priestley of the Mayo Clinic.

A tuberculosis survey was sponsored by the county medical society, which received the hearty cooperation of the school board. Six hundred students were tested in the tuberculin testing program and seventy were followed up with x-ray examinations.

W. W. Larsen, Deputy Councilor

Sac County. The Sac County Medical Society held six meetings during the year 1936, several regular meetings being omitted during the heavy snow season. In addition, the society participated as a group in the Twin Lakes Medical Society meeting at Rockwell City in June. Four of the meetings consisted of both business and scientific sessions. An open meeting was sponsored in Odebolt, in cooperation with the Parent-Teacher Association, at which addresses were given by Drs. J. Harry Murphy and E. McMahon, both of the Creighton University Medical School faculty. Their subjects were: "Fatigue in Children" and "Infectious Diseases". At the August meeting, films were shown on the subjects of "The Oxytosis Effects of Ergotocin" and "Thoracoplasty". An address was given before the October meeting by Don Mullen, attorney, on the subject "The Relations Between the Medical and Legal Professions". In December a meeting was held at the home of J. R. Dewey. Papers were read by Drs. R. H. McBride of Sioux City and Walter Anneberg of Carroll on "Lung Abscess" and "The Hypertonic Child".

The society continued to handle the medical care of the indigent sick on a quasi-contract basis which has been fairly satisfactory.

An immunization program was participated in by the society in the fall, out of which arose the very definite conviction that such programs should be initiated by the members of the profession and that follow-up work by the individual physicians on their own patients would be advisable.

J. R. Dewey, Deputy Councilor

Woodbury County. Ten meetings of the Woodbury County Medical Society were held in 1936. Two of the meetings were business sessions, and seven were meetings with scientific papers presented by visiting physicians. The other meeting was a strictly social meeting. One of the scientific meetings was a joint meeting with the Pottawattamie County Medical Society. One meeting was a commemorative dinner in honor of Drs. Wm. Jepson and Frank Murphy of Sioux City, both of whom had just completed fifty years of practice. Visiting speakers at that meeting were Drs. Walter L. Bierring, E. M. MacEwen, and Howard L. Beye.

Visiting scientific speakers for the year included

the following physicians: Robert L. Dinsmore, Cleveland, Ohio; C. F. Obermann, Cherokee; C. Gregory Barer, Iowa City; I. H. Borts, Iowa City; Carl F. Jordan, Des Moines; Kellogg Speed, Chicago; E. H. Ryneanson, Rochester, Minnesota, and Samuel D. Rosenthal, Chicago.

The average attendance at our meetings has been 75 members.

Peirce D. Knott, Deputy Councilor

Fifth Councilor District

Submitted herewith are the reports of activities in the various county medical societies in the fifth councilor district.

Earl B. Bush, Councilor

Boone County. The Boone County Medical Society functioned last year with one hundred per cent membership. Monthly meetings were held. All scientific programs were joint meetings with the Story County Medical Society.

The society operates on a contract basis with the Board of Supervisors in the medical care of the indigent.

Assistance was given the 4-H Club in medical examinations. A program of Dick testing was conducted throughout the Boone school system during a severe scarlet fever epidemic. In addition to those two programs, the usual pre-school round-up and diphtheria and smallpox preventive programs were carried out throughout the county.

No auxiliary exists in the county but a program of participation with allied groups was worked out.

The annual summer meeting with Story County was held at the Boone Country Club. This past year, the program was dedicated to E. M. Myers of Boone, President-elect of the Iowa State Medical Society, and Earl B. Bush of Ames, newly elected Councilor of this district.

The year 1936 was a very successful year in the society, both from a standpoint of scientific medicine and social contacts of the individual members.

James O. Ganoe, Deputy Councilor

Calhoun County. We have had one new member join our society and have lost two by death and one by removal. Meetings of the county society were not well attended last year, but so far this year much activity has been shown.

Our arrangement for taking care of the indigent is through a contract between the members of the county medical society and the Board of Supervisors. This arrangement provides for the payment of fees for work which has been authorized by the relief worker. Our fee schedule is fifty per cent of the regular schedule. The plan is working satisfactorily.

One member of our society took postgraduate work at Omaha, at a private course. The others have had the opportunity of attending the meeting of the Twin Lakes District Society, which is sponsored by the Calhoun County Medical Society. This presents a six hour dry-clinic program yearly.

Our society sponsored a diphtheria immunization

program in the Rockwell City schools. A couple of our members have presented health talks before Parent-Teacher organizations.

This society is a part of the Calhoun County Interprofessional Group, which has had no meetings in the past year.

There is no woman's auxiliary in this county but a woman's auxiliary to the Twin Lakes District Society is in the process of formation.

P. W. Van Metre, Deputy Councilor

Dallas and Guthrie Counties. Regular meetings of the Dallas-Guthrie Medical Society have been held quarterly. We have an average attendance of twenty-five members at the meetings. Our total membership for the year was 39 members, three of whom were new.

We are operating under the medical plan of the Iowa Emergency Relief Administration, which is proving fairly satisfactory.

A few of the members of our society attended the postgraduate course offered at Atlantic.

The only public health program sponsored by the society was the tuberculin testing program carried out in Jamaica, Bayard, Bagley, Yale, Panora, Stuart, Casey and Herndon in Guthrie County, and in Perry, Dallas Center, and St. Paul's of Dallas County.

We have no interprofessional organization but have a very active woman's auxiliary which holds meetings quarterly at the same time and place of the Dallas-Guthrie Medical Society meetings.

S. J. Brown, Deputy Councilor (Guthrie County) and Secretary of Dallas-Guthrie Medical Society

Greene County. Four meetings of the Greene County Medical Society were held in 1936. Scientific programs were presented at each meeting. Our membership was increased by two members in the past year.

Tuberculin testing programs were conducted in the schools of Scranton, Rippey, Churdan, Grand Junction and Jefferson. In addition the physicians cooperated in the summer round-up program of the Parent-Teacher Association.

We have a fee schedule arrangement with our Board of Supervisors for medical work for the indigent. On the whole the arrangement has been satisfactory except for the number on relief and the Board questions the amount of services performed by some of the physicians. As far as the surgical work is concerned, the Board was not satisfied with the fees and the number of emergency cases. At present we are trying to work out a satisfactory plan.

Some members of the society have cooperated in the movement to build a new hospital in Jefferson. The movement was successful and the hospital is now in the process of construction.

Ben C. Hamilton, Jr., Deputy Councilor

Hamilton County. The Hamilton County Medical Society had 19 members in good standing in 1936.

Three meetings of the society were held during the year. The first meeting, in January, was called for the purpose of electing officers. The second meeting was held in October. Dr. W. H. Scott from Fort Dodge was guest speaker and gave a lecture on the subject of "Transurethral Prostatic Resection". Legislative matters were also considered. Dr. O. C. Hall, pioneer physician in this county, now retired from active practice, was made a life member of the county society.

At the third and last meeting of the year, in December, our officers for the ensuing year were chosen. At this meeting a county physician's credit bureau was formed. A talk entitled "Death of George Washington" was given by Dr. R. C. Crumpton.

M. B. Galloway, Deputy Councilor

Polk County. Only four new physicians located in Polk County; two died; none removed. Paid membership was increased by twenty-one; total increase of membership, all classifications, was fifteen. Thirteen members have been granted life membership in the Iowa State Medical Society. The total membership, all classifications, numbered 260. For the first time Polk County became entitled to five delegates to the Iowa State Medical Society.

Thirty-five Council meetings, all well attended, were held during the year. The executive office of the society serves to coordinate the many activities, handle all details, and manage the bureaus operated by the society. The society also publishes a monthly Bulletin mailed to approximately five hundred physicians in central Iowa and to all parts of the nation. Inasmuch as activities of the society can be credited to the various committees this report will be arranged under committee headings.

Program Committee:

Meetings	Number	Speakers	
		Numbers	Guests
Special Scientific	6		9
Regular Scientific	6	14	2
1936 Annual	1	1	
Haggard Open	1		1
Burcham Honorary	1	2	
Fay on Social Security ..	1	1	
Totals	16	18	12

The average attendance at meetings increased from about 30 per cent of the membership in 1935 to 37 per cent in 1936. No postgraduate lectures were held by the society during the year. Additional scientific programs not credited to the Program Committee included a two day clinical conference sponsored by the Mercy Hospital Staff; eighteen scientific lectures given by our members before other county medical societies; various other scientific lectures not recorded; and the scientific programs of five study clubs which meet regularly during the year.

Public Health and Legislation Committee: The interprofessional group and activities of the Legislative Committee of the State Society were supported whenever occasion arose during the year.

Public Relations Committee: Because of the situation regarding Broadlawns Hospital, the activities of

the Public Relations Committee were taken over by the Council in large part. However, this Committee advised and recommended in several instances when lay groups asked for free medical care by members of the society.

Educational Committee: The second "Drama of Health" series of radio programs was presented during the year. This series included eighteen dramatizations prepared and broadcast by our members with the assistance of Mr. Edwin G. Barrett and students of the Drake University School of Radio. One public meeting, with Doctor Howard W. Haggard as speaker, attracted more than four hundred doctors, their wives and laymen. This committee cooperated in the summer round-up and diphtheria immunization campaigns by arranging publicity.

In addition to the activities of this committee thirty-one talks were made before lay groups and eleven radio talks were given by our members on programs arranged by the Speakers Bureau.

Credit Reference Bureau: The society maintains a file of patients delinquent in payment of medical accounts reported by the physicians. From time to time multigraphed reports are inserted in the Bulletins mailed to members. Stuffer forms and letters are provided by this Bureau and are used by many members as collection aids.

Commitment Committee: By arrangement with court officials, this society has been appointed examiner of all patients seeking commitment to the University Hospital at Iowa City. During the year the Commitment Board, consisting of nineteen of our members, examined seven hundred and forty-six patients, fifty-three of whom were refused and thirty-two referred to local doctors or some local clinic for medical care. This committee has served to select patients for teaching purposes with regard to the county quota and at the same time retain within the county those patients who should properly remain here.

Economics Committee: At the present time medical care of the indigent is provided through Broadlawns Hospital and by contract between the Board of Supervisors and four doctors of medicine for care within the city of Des Moines and on a fee basis with doctors of medicine outside the city limits. Attempts are being made to obtain legislation leading to a contract between the supervisors and the society for all non-hospitalized medical care of indigent residents of Polk County.

This committee drew up and presented "Rules Governing Gratuitous Medical Services in Hospitals, Clinics and Community Projects and Their Relation to Medical Practice," which have been followed in negotiations with Broadlawns Hospital and in considering requests from other lay groups for free medical care.

Medicodental Bureau: This Bureau, established by the society, with the cooperation of the three church hospitals and a majority of the dental profession, to provide complete medical care, when it is needed, to regularly employed people and their

dependents on a credit basis at a fee commensurate with their ability to pay, has experienced a slow but satisfactory growth. This effort, on the part of the society, has received the commendation of Doctor Leland; and those in charge tell of the great appreciation by patients served through the Bureau. Doctors have cooperated in the efforts of this Bureau and the industrial organizations whose employees have been served by it are showing more interest in the program. The public and various welfare groups are learning to refer border line cases to this Bureau where they may be properly referred to a physician for medical care.

Immunization and Child Health: For the first time, the children examined in the summer round-up were referred to the office of family physicians. The public health nurses, the Parent-Teacher Association, thirty-nine public and four parochial schools participated in the program. Through the efforts of over one hundred Parent-Teacher Association mothers, appointments were made for the examination of eight hundred and thirty-six children. Two hundred and fifty-six went to their private physicians, seven to osteopaths and one hundred forty-two to the free clinic at the Health Center, arranged for by the committee. Thus, four hundred and five of these children were examined, two hundred and seventy-four of whom entered kindergarten in September and were re-examined by the school physician. This check-up showed that private physicians and parents had followed up on the pre-school examinations and that many preventive and corrective measures had been taken to improve the health of the kindergarten class.

During June and July, the society managed a rural immunization campaign, sponsored by the State Department of Health through provisions of the Federal Social Security Act. Fourteen physicians participated in the campaign and one hundred and sixty-four children in the age group nine to twenty-four months were inoculated. A total of two hundred and eighty-five children were reported inoculated. The doctors participating in the campaign were paid on a unit basis. Serums were furnished without charge.

The second annual diphtheria immunization campaign was conducted by the society with the cooperation of the Parent-Teacher Association, the city health department, the Public Health Nursing Association, the school nursing bureau and the Des Moines druggists. The campaign was county wide. The special fee of \$1.00 was recommended for inoculation of children nine to twenty-four months old if taken to the private physicians at the special hour eleven to twelve on Saturdays during the period of the campaign. Four hundred and forty-three infants and children were immunized by physicians in their offices and three hundred and six were immunized at the city hall, making a total of seven hundred and forty-nine protected during the period of the campaign.

Advisory to Broadlawns: Negotiations between

the society and Broadlawns Hospital Trustees served to establish an active, rotating committee of the society to serve in an advisory capacity to the Trustees in all medical and professional matters.

Miscellaneous: Other committees of the society whose activities are not of particular interest in this report or which were inactive were as follows: Professional Relations, Auditing, Bulletin Advisory, Physicians Service Bureau, Military Affairs and Golf.

During the year the society approved and members participated in a tuberculosis survey at East High School. One thousand six hundred and one students were tested and one hundred forty-one were found to be positive reactors. All reactors were x-rayed but no active cases were found among the students.

During the year public health nurses assisting doctors in rural communities reported that one hundred and fifty-three children had been immunized against diphtheria and one hundred ninety-six had been vaccinated against smallpox. In addition three hundred thirty-eight Valley Junction High School children had been given the tuberculin test.

According to records in the executive office.

James A. Downing, Deputy Councilor

Story County. The membership of the Story County Medical Society is one hundred per cent, every eligible physician being a member in good standing. Three new members were added during the year and one was lost through death.

The medical relief work of the county is being cared for under a contract between the county society and the Board of Supervisors.

Regular county society meetings have been held, with good programs and an attendance of at least seventy-five per cent of our membership. Joint meetings with the Boone County Medical Society have been held every other month, with a scientific program. At these meetings we have nearly one hundred per cent attendance. Two of these joint meetings were of special interest: one was held at the Boone Country Club in honor of Dr. E. M. Myers, incoming president of the State Society, and Dr. Earl B. Bush, new councilor of this district. The other meeting was held at the Ames Country Club with the members of the allied professional groups as guests.

Immunization programs have been carried out in a number of schools; among some of them it has been a regular procedure for a number of years.

Our members have tried to give their full support to the legislative work; the Social Security Act and the Basic Science Act were discussed. The members are united in their stand against state medicine.

Bush Houston, Deputy Councilor

Webster County. During the year 1936 there was only one new member added. We were glad to welcome H. C. Kluever in our society. He located in Fort Dodge and is confining his practice to diseases of the eye, ear, nose and throat.

Our medical relief plan has been in force for two years and is very satisfactory to all concerned. We are on a fee basis, entirely and completely within the control of the society. The determination of eligibility to receive medical relief is the duty of the local relief officer. An auditing committee of the society acts on all accounts and has full power to allow or reject any and all bills for services. As a whole, the members react to this plan very satisfactorily.

Postgraduate work is difficult to estimate. Most of the members attend society meetings and programs in our vicinity. A few always take advantage of the American Medical Association and postgraduate assemblies. Also individual work was enjoyed by some in the leading hospital centers in the United States.

Webster County has, through its school system, carried out definite public health programs yearly. The school physician of Fort Dodge vaccinates children against smallpox yearly in the kindergarten and preliminary grades. Also the same children are offered the opportunity of becoming inoculated against diphtheria. The local society also conducts a health check-up each spring of all suspected pulmonary tuberculosis cases. This has been in progress for several years and valuable data have been accumulated.

The interprofessional relations are pleasant and the group is always active when the emergency arises.

A very active woman's auxiliary exists. They are proud of placing the *Hygeia* magazine in each school in Fort Dodge.

L. L. Leighton, Deputy Councilor

Sixth Councilor District

A liberal interpretation of Section 2, Chapter 7, of the By-laws of the State Society permits each deputy councilor to attend to the requirements of his own county. This leaves the problems of the district to the Councilor, with the aid of his local deputy. The county societies in this district are well able to solve their own problems, with such suggestions and information as are available from the State Society office.

During the past year four good general meetings were sponsored by the sixth councilor district, jointly with the local societies.

On January 17, 1936, Dr. F. L. Rector, field representative of the American Society for the Control of Cancer, had an open date and a hurried meeting was arranged with the Waterloo Women's Club. Before this large and appreciative group of women, Dr. Rector presented his pictures and lecture. Members of the medical profession enjoyed a luncheon meeting with Dr. Rector on that same day.

On June 25, 1936, the annual recreation meeting of the district was held for all members of the profession and their wives. The meeting was held at the Grinnell Country Club, where golf, shuffle board, cards and tennis were enjoyed in the afternoon. Those in attendance were guests of the local county

society for a delightful dinner, after which Dr. W. L. Strunk, of Decorah, Chairman of the Basic Science Board, answered questions regarding the Basic Science Law.

A joint meeting of the district and the Hardin County Medical Society was held at Iowa Falls on September 17. President Prince Sawyer and President-elect E. M. Myers spoke on the professional problems of today and Drs. Fred Moore, R. D. Bernard and Robert L. Parker gave interesting discussions along the same lines.

The address of Dr. R. G. Leland, medical director of the Bureau of Medical Economics of the American Medical Association, on December 10 was the occasion of the fourth district meeting. Dr. Leland gave a very interesting and instructive discussion of ethical and economic problems in medicine before a large group of physicians and dentists from Waterloo and the surrounding territory.

In the fall, each deputy councilor in the sixth district was appointed cancer chairman for his respective county. This is a part of the educational program of the American Society for the Control of Cancer and, like the early activities in the field of tuberculosis, it is a great movement that is nationwide or even worldwide in its scope.

I appreciate the reports from the individual deputy councilors, which are given below.

C. W. Ellyson, Councilor

Benton County. Our membership status in 1936 was the same as for the previous year. One member was lost through death and one new member located in the county. Two new physicians located in the county and two physicians moved away. We had one meeting during the year for the election of officers and other business. We had no scientific programs during the year.

Medical relief in Benton County is handled by a contract with the Vinton physicians to care for the poor of Vinton (Taylor Township, county home and county jail) for \$150.00 per month, a contract with Belle Plaine physicians to care for the poor of Belle Plaine and Luzerne and the township for \$150.00 a month. The rest of the county relief is handled through the relief office of the county. This plan has worked fairly well for all concerned.

Several towns in the county have conducted immunization programs for the prevention of diphtheria.

G. R. Woodhouse, Secretary

Black Hawk County. Our total number of members in good standing is sixty-three. We had an increase last year of six members and a loss of one, because of non-payment of dues. There were no deaths and no members moved from the county.

Our society had nine scientific meetings during the year. Very little business was transacted and there seemed to be no occasion for any business meetings.

We have a contract with the Board of Supervisors to care for the indigent sick. This is very similar to the plan that we have had for 20 years, except

the method of compensation. We now receive 50 per cent of the minimum fee for all work done for the county. We furnish all drugs except narcotics and serums. It is working fairly satisfactorily.

Our county did not have a graduate course last year. However, there was a course twenty-five miles away and many of our members attended this.

This society as a society was not active in public health matters last year.

Our county had one interprofessional meeting last year and developed a loosely organized group.

The doctors' wives of Waterloo, but not of the county, have a very active auxiliary. The organization, however, is not affiliated with the state group.

A. J. Joynt, Deputy Councilor

Grundy County. We had no scientific meetings during the year. Three business meetings were held. All eligible physicians in the county except one were members in 1936. Our meetings are very well attended.

R. T. Spain, Deputy Councilor

Hardin County. There have been no special activities in the Hardin County Medical Society. We hold a meeting every month. There are twenty-five members in the society, three new members being added this year. One member recently moved away.

W. E. Marsh, Secretary

Iowa County. The Iowa County Medical Society had only two meetings in 1936. One of these was in the form of a tuberculosis clinic held June 26 at Marengo. The clinic was conducted by Dr. John H. Peck and Dr. B. F. Wolverton.

We tried to promote tuberculin testing throughout the county but only the Amana Colonies responded.

Our other meeting was held late in the year for the purpose of electing new officers.

Only one new member was added to the society in the past year.

Irvin J. Sinn, Deputy Councilor

Jasper County. The Jasper County Medical Society held regular monthly meetings in 1936, on the first Tuesday of each month, with the exception of July and August. These meetings were held at the Skiff Memorial Hospital, Newton, and were preceded by a 6:30 dinner.

Of the thirty-two eligible members, twenty-eight have continued in good standing; and two of the four delinquents have recently applied for reinstatement. One new physician has made application for membership.

The previous contract of the society with the county Board of Supervisors for the care of indigents was, with a few minor changes, continued for 1936. Under this contract, the fees charged are 50 per cent of the fee bill of the State Society. The welfare office furnishes a list of indigents, corrected monthly, to the county society. A committee of three physicians assists the Board of Supervisors in auditing medical bills; this committee also acts as a conciliatory board. Another committee advises and

passes on the cases going to the State University Hospital at Iowa City. This contract with the Board of Supervisors has been very satisfactory both with the Board and the society.

An immunization program for diphtheria and smallpox was carried out at Colfax, Baxter and Newton. The child health clinic for pre-school children was continued in Newton.

The society selected two physicians to speak to the juniors and seniors of the Newton High School on the topic "Sex Control."

On November 10, 1936, the society entered into a contract with the Marathon Finance Corporation of Wausau, Wisconsin, for the purpose of liquidating accounts. Since that time, numerous requests from other county societies for information concerning the work, methods, and results lead us to believe the following data may be of interest.

There is over one-half million dollars in past due accounts on the books of Jasper County physicians. Of this amount, accounts totaling \$300,000 have been turned over to the Marathon Finance Corporation for liquidation. These include outlawed accounts, accounts that have gone through bankruptcy, as well as more recent accounts that have been found to be uncollectible. While an accurate check has not been made, it is presumed that in the neighborhood of two-thirds of the dollar volume represented in these accounts will be contacted. The remaining third represents such accounts as the Marathon Corporation is unable to locate.

The following is the result of nine weeks work in this territory:

Date	Cash Collections	Notes	Per cent of dollar volume of cash to total
November 23-30	\$ 223.00	\$ 980.00	18.5
December 1-31	2,800.00	11,309.00	19.8
January 1-31	3,386.00	13,649.00	19.8
Total notes		\$25,938.00	
Total cash		6,409.00	
Grand total		\$32,347.00	

So far as the deputy councilor has been able to ascertain, this service has been satisfactory and successful, and has been the cause of applications for reinstatement from delinquent county members. There have been no complaints from either the physicians or debtors as to the methods employed by the Marathon Corporation. The Corporation is under bond to the society for the faithful performance of its contract. It is encouraging that the people of Jasper County are becoming more conscious of the fact that they must settle their doctor bills.

Harry P. Engle, Deputy Councilor

Marshall County. There were forty-three members in the Marshall County Medical Society in 1936, which represents an increase of two over the total for 1935. Two new physicians located in the county and became members. One physician was lost through death.

The medical care of the indigent was handled by a contract with the Board of Supervisors by the individual members of the society. This contract called for \$9950.00 for the year. The county fur-

nished medicines, serums and venereal disease treatment supplies. The patients had the right to choose their own physicians. The physicians were paid through the medical society committee on the basis of the amount of services performed. On the whole, the plan worked satisfactorily.

A few members attended postgraduate courses during the year.

Public health program: The society cooperated with the Red Cross in the examination of tubercular contacts. It also cooperated with the Parent-Teacher Association in their summer round-up program. The city health physician carries out a diphtheria immunization program among the school children of indigent parents. Diphtheria and smallpox immunization programs were carried out in the schools of Lynnvile, State Center and Gilman in conjunction with the Red Cross and the Parent-Teacher Association.

Various members of this society have served as speakers for the Speakers Bureau of the State Society.

Seven meetings of the society were held during the year. Two of them were business meetings, with an attendance of twenty-nine and twenty-two members respectively. The remainder of the meetings were scientific sessions. The following programs were presented:

March 3—Thirty-five present.

Curable and Preventable Field of Malignancy—E. H. Skinner, M.D., St. Louis.

April 7—Thirty-seven present.

Tubercular Survey in Linn County with X-Ray Findings—A. W. Erskine, M.D., Cedar Rapids. Discussed by Dr. John H. Peck.

May 27—Sixty present—Summer Clinic.

Some Derangements of the Knee Joint—Ralph Shormley, M.D., Rochester, Minnesota.

Some Phases of Renal Function—H. C. Haebin, M.D., Rochester, Minnesota.

Ectopic Pregnancy, Its Diagnosis, Management and Treatment—A. E. Kanter, M.D., Chicago.

November 3—Thirty present.

Prognosis in Heart Disease—A. D. Woods, M.D., State Center.

Pyelitis in Children—R. C. Wells, M.D., Marshalltown.

December 1—Thirty-five present.

Helpful Hints in the Diagnosis and Treatment of Gastro-Intestinal Disorders—Geo. B. Eusterman, M.D., Rochester, Minnesota.

A. D. Woods, Deputy Councilor

Poweshiek County. Our Society has one hundred per cent of the eligible physicians as members. One member died during the year.

We hold regular meetings every three months. We held one special meeting to discuss the relation of the medical profession to the Social Security Act. This meeting was addressed by Dr. O. J. Fay of Des

Moines. The June meeting was held in conjunction with the district meeting.

The society has a contract with the Board of Supervisors to do the indigent work on a fee basis which is about 60 per cent of our regular fee bill. The indigent calls the physician of his choice. The society pays the physician 95 per cent of his bill and retains 5 per cent to pay expenses of the society and dues of the members. We attempt to take care of as much of the indigent work as possible but the social workers do all they can to take work to Iowa City in order to save the expense to the county and transfer it to the state. Our contract plan has worked very satisfactorily for several years.

We put on a successful diphtheria immunization campaign last summer.

E. B. Williams, Deputy Councilor

Tama County. Our membership for 1936 was increased by three members over what it was in 1935. Six meetings of our society were held during 1936, with an average attendance of fifteen members. Three of our members became life members of county and state society during the past year.

We have a contract with the county Board of Supervisors for the medical care of the indigent. The amount of the contract is \$4000.00, one-fourth of which is payable every three months.

We have a contract with the Marathon Finance Company for collection of delinquent accounts and to take care of the payment of medical bills for the low income group. It is working satisfactorily at this time.

A partial immunization plan was carried out in several schools in the county during the year.

A. A. Pace, Deputy Councilor

Seventh Councilor District

The appended reports of the deputy councilors indicate, I believe, that the condition of the profession in the seventh district is as good as can be expected and that the zeal of the county societies and their members is satisfactory.

There is a wide variation in the plans for the medical care of indigents in the various counties in the district and, for that matter, in the state. May I not suggest that some attempt be made by the House of Delegates to formulate a more nearly uniform plan which would necessarily be elastic enough to meet the needs of various communities?

The officers and members of the unit societies have cooperated in a most gratifying manner with the Cancer Committee in its plan for the reduction of the cancer death rate in Iowa by a campaign of lay and professional education.

Arthur W. Erskine, Councilor

Buchanan County. The Buchanan County Medical Society has held four meetings during the past year. The hospital staff has held eight meetings. We have added two new members to our ranks.

Our medical relief set-up is the same as for last

year, with a slight increase on a few items. This arrangement is working very satisfactorily.

Four of our members took the postgraduate course on cancer which was given at Waverly.

In cooperation with the Iowa Tuberculosis Association, the society conducted a tuberculosis survey in the Independence schools. A county wide immunization program against diphtheria was undertaken under the direction of the State Department of Health.

The relations between the members of the profession in this county are very harmonious and an excellent feeling among the doctors is enjoyed.

C. W. Tidball, Deputy Councilor

Cedar County. Only one meeting of the Cedar County Medical Society was held in 1936. This proved to be so interesting that the members voted to meet every six weeks during 1937, if possible. Drs. Fred Smith of Iowa City and A. W. Erskine of Cedar Rapids presented very instructive papers at the meeting.

An immunization program was carried out in the county, reaching over four hundred people. Another one is to be conducted early in 1937.

Our plan for the care of the indigent seems to be agreeable to all the physicians.

We are proud of the manner in which the physicians continue to carry on the high ideals of our profession.

E. J. Van Metre, Deputy Councilor

Clinton County. There has been no increase or decrease in the number of members in the society. One new physician has located in the county.

The plan for the care of indigent is the same as last year. The contract for this year is \$3,500.00 lower but we have eliminated the care of the quarantine and placard cases and we do not furnish medication for patients returned from Iowa City while they are still under the care or direction of the University Hospital. The supervisors and the relief organization were well satisfied and wished us to continue on the same basis. We would have obtained a larger fee if it had not been for word from the Des Moines relief office which looked only toward the emergency and not the rehabilitation cases. The plan for the care of the indigent has operated more smoothly this year than any other year and we believe this county is responsible for the new ruling by the University Hospital that a patient should be charged just once against the quota during the fiscal year. As for the low income groups, we have done nothing.

Several of our members attended the postgraduate course at Davenport and we put on the refresher course here with a registration of about twenty.

Several immunization programs were conducted by the different physicians in the county. We had no child health clinics, radio talks, etc., with the exception of those carried on by the relief program when we had a tonsil clinic last May.

The interprofessional organization is under consideration now. We have no woman's auxiliary and

nothing was done about the cancer control program, although we are to bring it up this year.

Ralph F. Luse, Deputy Councilor

Delaware County. The Delaware County Medical Society held four meetings in 1936. We have thirteen active members and there are six eligible non-members, two of whom moved into the county during the year.

We have maintained the same county contract for three years in caring for our indigent sick. The cost of medical aid was approximately half what it was the preceding year, with two-thirds as many people on relief.

The Federated Women's Clubs, in conjunction with our medical society, sponsored a cancer meeting in the spring of 1936. Drs. A. W. Erskine and Florence Johnston of Cedar Rapids were our guest speakers. A local member of our society also presented a talk on cancer before the County Farm Bureau organization in October.

Eleven physicians participated in the preventive program of diphtheria immunization in October and November, 1936. One hundred and thirty-one children, between the ages of 9 and 24 months, were inoculated.

J. I. Jones, Deputy Councilor

Dubuque County. The Dubuque County Medical Society held nine regular, five special, and one anniversary meetings in 1936. The total attendance was 412, with an average attendance of approximately 50 per cent of our membership. The following guest speakers gave addresses before the society:

Budd C. Corbus, M.D., Chicago.
A. W. Erskine, M.D., Cedar Rapids.
H. C. Hesseltine, M.D., Chicago.
J. C. Kessler, M.D., Iowa City.
H. M. Ivins, M.D., Cedar Rapids.
Earl Sage, M.D., Omaha.
F. H. Schaff, M.D., Minneapolis.
Attorney H. J. Hoffman, Dubuque.
Miss Dora Weinstein, Dubuque.

There were no delinquent members in 1936. One member moved away, there was one death, and eleven new members were added during the year. Of these eleven, eight were admitted because of the satisfactory settlement of the controversy which has troubled this society for several years. There are six physicians in the county who are not members of the society although they are eligible for membership.

Fifteen health talks were given by the members during 1936. Many of these talks were in regard to tuberculosis or cancer. All speakers were impressed by a gradually increasing interest on the part of the lay public in the control of each of these diseases. Doctor F. L. Rector of the American Society for the Control of Cancer gave illustrated talks on cancer at the University of Dubuque and at a public meeting held at St. Joseph Mercy Hospital. Six lectures on infantile paralysis were given in the period preceding the President's Birthday Ball.

No active immunization program was carried out, but 549 students were given the Mantoux test. This work was financed by the Dubuque Visiting Nurse Association through Christmas seal funds. Plans are being made for the continuation of this work until all school children in Dubuque have been tested.

There has been a slight improvement in the relief burden at Dubuque during 1936. A new contract was drawn up with the county supervisors for those actually on relief. Another contract for the care of venereal patients (previously included with relief patients) has been arranged between the county and one of our members. The majority of the members continue to be resentful toward the set-up because of the scant consideration given the profession by county and state relief authorities.

At the present time plans are going forward for the organization of an interprofessional group. The several societies have been contacted and all are favorably inclined. The details of organization are to be completed after each society has officially acted upon the matter.

Our membership has maintained a high interest in the advance of scientific medicine. Twenty scientific papers were published during the year and this brings the total to approximately 100 during the last ten years. A keen interest has been shown in the various attempts to "socialize" medicine. One meeting was devoted to a study of the numerous schemes by which it is hoped to make the inevitable burden of sickness less onerous. The Dubuque Society is very sympathetic toward any plan which will really make our people thrifty, but is opposed to all methods of paying for medical treatment which directly or indirectly circumvent the rules governing the relationship of patient and physician as defined by the American Medical Association.

The county cancer chairman has actively cooperated in the formation of the Dubuque unit of the Women's Field Army for the Control of Cancer. He has arranged for lectures before various women's organizations, service clubs and other interested groups. Twenty lectures on cancer have been given. At the present time the Dubuque unit is actively developing the campaign for enlistments. As a result of the work of groups of interested women, all concerned are confident that Dubuque will go over the top during enlistment week.

In March, 1937, the Dubuque County Women's Auxiliary was organized by Mrs. M. C. Hennessy, President of the State Auxiliary. Regular monthly meetings have been held ever since. The members are taking an active interest in various medical and public health problems, such as the smoke nuisance, cancer control, Mantoux tests in the schools, and the Social Security Act. While still in its infancy, the auxiliary gives promise of ultimately being a powerful force in the molding of public opinion.

F. P. McNamara, Deputy Councilor

Jackson County. The membership status of the Jackson County Medical Society during the past year has not changed. We have at present sixteen mem-

bers in good standing. We have one life member. Four meetings of the society were held, with combined social and scientific programs.

Special legislative committee meetings were not necessary this year because our legislators were favorable to our needs.

Our plan for the care of the indigent is still that of the Iowa Emergency Relief Administration.

Our society cooperated in a diphtheria immunization program during the year.

Geo. C. Ryan, Deputy Councilor

Johnson County. A summary of our present membership is as follows: 2 life members, 108 active members, 15 associate members, 15 affiliate members, 2 non-resident members, and 57 junior members, making a total of 199 members. Since January 1, 1936, we have lost the following active members: 3 by death, 4 by transfer, and 3 by resignation. We have added new members as follows: 1 by transfer, 12 active members by application, 3 associate members by application and 34 junior members by application. Five junior members have become active members.

Ten meetings of the county society have been held during the year, nine of which have included a scientific program. Guest speakers have been: Drs. A. M. Snell of Rochester, Minnesota, E. A. Schumann of Philadelphia and E. A. Graham of St. Louis. The average attendance for the meetings was 74 members and 10 guests. The largest attendance was 127 and the smallest 67.

The Mercy Hospital Staff, composed of members of the Johnson County Medical Society, has a contract with the Board of Supervisors for medical care of the indigent, which is working satisfactorily.

There have been no postgraduate courses given to members of the society other than the privilege of attending clinics at the University Hospitals.

No public health program has been sponsored by the county society, but a number of individuals, with the endorsement of the county society, have been active in public health work, particularly the work of tuberculosis.

We have no interprofessional organization or woman's auxiliary.

Geo. C. Albright, Deputy Councilor

Jones County. There are the same number of members in the Jones County Medical Society as for last year—12. Three more are eligible but do not pay dues. We have no scientific meetings as the doctors prefer to attend the high class meetings given monthly by the Linn County Medical Society.

The medical relief set-up is that of the Iowa Emergency Relief Administration as far as that financial set-up will go. If it does not take care of the bills presented, the supervisors make up the difference. They select three physicians to check the bills presented by the members of the society.

The society cooperated in an immunization program last fall. We had two talks on cancer control, to which the entire community had been invited.

T. M. Redmond, Deputy Councilor

Linn County. Membership in the Linn County Medical Society has increased during the past year by the admission of six new members. Four members have been lost; two by death; one by removal; one by resignation.

The programs, attendance and speakers at our recent meetings were as follows:

September 3, 1936—Attendance, 325.

The Diagnosis and Treatment of Lesions of the Cranial Nerves—Walter E. Dandy, M.D., Baltimore.

The Diagnosis of Bone Lesions—Dean Lewis, M.D., Baltimore.

October 2, 1936—Attendance, 125.

The Hypophyses—Wm. G. MacCallum, M.D., Baltimore.

Local paper by W. E. Owen, M.D.

October 27, 1936—Attendance, 320.

The Treatment of Diabetes—Elliott P. Joslin, M.D., Boston.

Local paper by B. L. Knight, M.D.

November 19, 1936—Attendance, 200.

The Pharmacological Background and Treatment of Obesity and Undernutrition—Frank A. Evans, M.D., Pittsburgh, Pennsylvania.

Local paper by Leo B. Sedlacek, M.D.

December 17, 1936—Attendance, 165.

Fractures of the Neck of the Femur—John Royal Moore, M.D., Philadelphia, Pennsylvania.

Local paper by R. J. Stephens, M.D.

January 15, 1937—Attendance, 150.

Various Forms of Self Destruction—Karl Menninger, M.D., Topeka, Kansas.

Local paper by H. M. Ivins, M.D.

February 11, 1937—Dr. Clarence Van Epps and staff of Iowa City.

The Hypertensive Brain State—A. L. Sahs, M.D.

Muscular Disorders—C. Gregory Barer, M.D.

Encephalographic Interpretation of Tumors In and About the Third Ventricle, Aqueduct and Fourth Ventricle—O. R. Hyndman, M.D.

Local paper by H. O. Young, M.D.

The Bulletin of the Linn County Medical Society was issued monthly. It averaged 32 pages per issue and contained numerous original articles from the various members of the medical society as well as the historical review of several institutions of the State of Iowa. The addresses of our several guest speakers were reviewed in the Bulletin. Original articles were written by the following doctors: H. L. Van Winkle, Jennings Crawford, F. W. Mulsow, T. F. Suchomel, J. K. Von Lackum, R. M. Chapman, H. M. Ivins, H. E. Pfeiffer, B. J. Moon, B. F. Wolverton, John Hecker, J. T. Grayston, Wm. H. Redmond, W. J. Foster, A. W. Erskine, James V. Prouty, Edw. H. Files, W. J. Morrison, John Gardner, Harold A. Lockhart, Florence Johnston, F. G. Murray, B. L. Sheldon, C. H. Stark, E. B. McConkie, all of Linn County, and A. C. McKean, Ladora, Iowa; Frank H. Lahey, Boston, Massachusetts; and T. U. McManus, Waterloo, Iowa. The historical articles re-

garding the state schools were written by: Dr. A. R. Schier, Superintendent of the State Hospital for Epileptics and School for the Feeble-minded, Woodward; Dr. Charles E. Irwin, Chief Surgeon, Iowa Soldiers' Home, Marshalltown; and Dr. O. S. Von Krog, Superintendent, Iowa Training School for Boys, Eldora, Iowa.

No postgraduate courses were undertaken by the society, except that some of the best speakers in the country were obtained for the county society programs. Several members attended various postgraduate assemblies throughout the country and one took a one month's postgraduate course in Cincinnati.

Public health programs conducted in the county.

(a) All children between the ages of nine months to twenty-four months in the county were immunized against diphtheria.

(b) The tuberculosis program which was started in 1935 has been continued throughout the year.

(c) A venereal disease clinic sponsored by the Linn County medical relief set-up.

Various members of the profession in Linn County have broadcast radio talks on health subjects from radio stations WSUI at Iowa City, WOI at Ames and WMT at Cedar Rapids. Our members have also cooperated in appearing before lay groups and giving health talks.

An interprofessional organization has been completed in Cedar Rapids. There is a special committee that has charge of this program. This committee helped organize an interprofessional organization in Benton County. Our interprofessional organization includes members of the law, dental, pharmaceutical and nursing professions. The lawyers were invited to attend one of our county medical society meetings, at which Dr. Karl Menninger of Kansas City discussed the subject of "Suicide".

The Linn County Medical Society is operating on a new and very efficient medical relief plan which has received high commendation, both from our own Board of Supervisors and from outside sources. The full details of this plan and the aims of the society in establishing it will be carried in an article in the May issue of the Journal of the Iowa State Medical Society. In brief, the county medical society receives monthly a stipulated lump sum of money from the County Board of Supervisors. The society has established a medical relief clinic, divided into definite departments, such as pediatrics, chest, nervous and mental, gynecology, venereal, etc., each department headed by men especially interested in the given division. Most of the relief patients are treated at the clinic but home and hospital service is rendered where indicated. Very definite records are kept on each patient, including tuberculin and Wassermann tests, to the end that such tests may eventually be recorded for every member of the families in the indigent group. The society has found the plan to operate much more efficiently than the old medical relief plan of the Iowa Emergency Relief Administration, from the viewpoint of service to patients and

remuneration to physicians. At the end of the year, the surplus of money allotted by the County Board of Supervisors but not used was returned to the supervisors.

L. M. Downing, Deputy Councilor

Eighth Councilor District

The county societies in this district have all been fairly active during the year 1936. Meetings have been regular in some societies, irregular in others, but the interest in all has been good.

Financial conditions are somewhat improved and all of the societies have financial arrangements for the care of the indigent. Most of them are generally satisfactory. The Iowa Emergency Relief Administration medical plan has not been completely satisfactory in all of those counties in which it has been in effect.

The Social Security Act provides for certain orthopedic work and this has been placed under the supervision of the medical department of the State University. The plans, as prepared by Dr. MacEwen, called for orthopedic clinics for the purpose of checking up on those children who had been patients at the orthopedic department of the University Hospital and to locate other patients in this district for whom these services would be initiated. The first clinic of this type was held in Fairfield in November. Seventy-seven children were examined. The next clinic was held in Fort Madison in December, where 117 children were examined. The third clinic was in Davenport in January—about 80 children were examined—and the fourth clinic was held in Muscatine in February, where 97 children were examined. These clinics were, without exception, quite successful, both in the interest of the doctors and the patients.

All of the deputy councilors have worked well and have materially advanced the standing of organized medicine in southeastern Iowa. Their individual reports are given below.

C. A. Boice, Councilor

Des Moines County. During the year 1936 there were nine regular monthly meetings; one of these was a picnic meeting held at Crystal Lake Club, May 20. There were two special meetings called in regard to the forming of a health unit in Des Moines County. The meetings were fairly well attended and the programs were well balanced. Scientific papers were presented at four of the meetings by speakers from outside the county. One meeting was held at which moving pictures were shown on the subject of "The Collapse Therapy in Pulmonary Tuberculosis". At one meeting, Mr. John N. Calhoun, candidate for the House of Representatives, gave his views relative to socialized medicine.

For the year 1936 the society had 33 active members, 7 of whom are life members. We have one non-resident member.

George D. Jenkins, Deputy Councilor

Henry County. During the past year all active physicians in the county were members of the society. We lost one member by death.

We held eight regular meetings during the year. Our programs were presented in part by members of our own society and in part by speakers furnished by the State Society Speakers Bureau. Rather unusual interest appeared to be shown at our January meeting. The twelve physicians present agreed to present at least one paper at our meetings during the coming year. During the year we have had an average attendance at our meetings of eighty per cent of the members.

S. W. Huston, Deputy Councilor

Jefferson County. Two new physicians located in the county in 1936. One long time member passed away. Two members have been recommended for life membership. We have had nine scientific and business meetings which have been very well attended. The general interest in the society is quite commendable.

This county sponsored, through the Speakers Bureau of the State Society, a postgraduate course. One of the regional orthopedic clinics of the state was held here. We have immunized the great majority of the country children in Jefferson County against diphtheria. Our society has been the examiners for the 4-H Clubs. On several occasions members of the society have given public health talks.

We feel that the contract which we have for the care of the indigent is exceptionally satisfactory. It is the same we have had for several years.

I. N. Crow, Deputy Councilor

Lee County. Upper Lee County. We have 21 physicians in Upper Lee County, four osteopaths and three chiropractors. There are four retired physicians. Two new physicians located here in 1936 and we lost one by removal.

Upper Lee County is working at present under the medical relief set-up of the Iowa Emergency Relief Administration, which is operating satisfactorily.

One of the orthopedic clinics provided for by the Social Security Act was held at Fort Madison in December.

R. F. Feightner, Deputy Councilor

Louisa County. It is not possible to make much of a report of the society work in Louisa County for 1936. There are ten physicians in the county, only two of whom were members in good standing in their medical societies during the year. No new physicians located in the county and we lost three, two by death and one by removal. It is impossible to get the delinquent members to become interested in their membership in their professional organization.

We had eleven meetings of the county society; we meet monthly except in May, the month of the State Society meeting.

J. H. Chittum, Deputy Councilor

Muscatine County. There are twenty members in the Muscatine County Medical Society; four physicians in the county who are eligible are not members. Three of these eligible physicians located in the county only recently. We lost one member during the year through death.

We did not have a very active year in the respect of scientific meetings. We had five meetings during the year, with an average attendance of eleven members. One meeting was given over to Dr. Ray Sorensen, formerly of Washington, and Dr. C. A. Boice, Councilor, who discussed some of the provisions of the Social Security Act. The general political situation in the district was discussed at that time by all the members.

T. F. Beveridge, Deputy Councilor

Scott County. We have five life members in our society. During the year 1936 we lost two members by death and gained four, two by transfer and two by vote of the society.

There were eight monthly meetings and dinners of the Scott County Medical Society, as follows: January 7, February 4, March 3, May 5, and October 1 at the Lend-A-Hand Club; April 9, a meeting in conjunction with the Iowa and Illinois District Medical Association at the Fort Armstrong Hotel, Rock Island; June 2 at the Empire Room of the Hotel Blackhawk; November 6 at the Barn, Hotel Blackhawk. There were approximately fifty doctors who attended each meeting and dinner throughout the year. Dinners are served preceding the regular meetings and are paid by the members and also partly by the Scott County Medical Society, Inc. Dues are \$17.00 per year; \$7.00 is paid by each member and the other \$10.00 is paid by the Incorporated Society.

The Scott County Medical Society, through the Speakers Bureau of the State Society, held a postgraduate course which opened September 15, 1936, and continued until December 1, 1936. Forty-four local doctors and 39 from outside attended the course.

A. P. Donohoe, Deputy Councilor

Van Buren County. We have one hundred per cent membership, all thirteen physicians in the county being members. Three meetings of the county society were held during the year; one was a picnic meeting and the program for one was furnished by the Speakers Bureau. The attendance at and the interest in the meetings are good.

Our county is still operating under the medical plan of the Iowa Emergency Relief Administration. This plan is paying out well, usually one hundred per cent in recent months. For the county poor medical care, the doctors have received an average of about sixty-one per cent of their fees. The old age pension has added greatly to this branch.

C. R. Russell, Deputy Councilor

Washington County. Our membership was increased by three new members in 1936 and decreased by one, who was lost through death. Our society meets in regular session each month. We meet for dinner, which is followed by a program. There are

special meetings, as well. We had a course of lectures on pre-natal care with addresses by Drs. P. C. Jeans and J. D. Boyd of Iowa City, R. I. Theisen of Dubuque and H. C. Hesseltine of Chicago.

The county health unit was re-established under the direction of Dr. Ray Sorensen. The maternal survey in this county is under the supervision of the health unit but is conducted by two nurses and is financed by the Federal Child Health Bureau.

E. E. Stutsman, Deputy Councilor

Ninth Councilor District

The deputy councilors of the ninth district have again had an active year and many report the component societies in good condition with all possible eligible physicians as members of the societies. Some of the counties have been unable to arouse the interest and secure the cooperation of all of the men eligible for membership but this has not been due to lack of effort on the part of the deputies and other society members.

Postgraduate courses have been well attended by members in this district.

Three orthopedic clinics will have been held in the district by the time the annual meeting of the State Society occurs. The first was held at Oskaloosa for Marion, Mahaska and Keokuk counties. One hundred and twenty-nine patients were examined and recommendations made to the referring doctors. The second clinic was held at Chariton, April 3, for Wayne, Appanoose, Monroe and Lucas counties. The third will be held at Ottumwa, May 5, for Davis and Wapello counties. The general plan of action was formulated at a meeting of the deputy councilors of the district held in Ottumwa soon after the first of the year.

I wish to express my appreciation for the splendid cooperation given me by all of the deputy councilors of this district and the interest in society affairs which they have all evidenced. Without their assistance I would have been unable to perform my duties during this past year.

H. A. Spilman, Councilor

Tenth Councilor District

Submitted herewith are the reports for the individual counties in the tenth councilor district.

James G. Macrae, Councilor

Adair County. The Adair County Medical Society still continues as a one hundred per cent county in membership for the fourth consecutive year. One new member has been added to the list and one member has died. Our total membership remains the same. The county society has held three meetings during the year, two of which were scientific and one a social program for the doctors and their wives.

The medical relief plan as adopted by Adair County has been functioning more satisfactorily than any other arrangement we have tried but it has needed changes from time to time. The plan has

been elastic enough to do this whenever it was desirable.

An immunization program has been carried out in three groups of high schools.

At the present time discussions are under way relative to the formation of a county unit of the State Interprofessional Association.

A. S. Bowers, Deputy Councilor

Adams County. Our membership in 1936 was one hundred per cent and the attendance at our quarterly meetings was also one hundred per cent.

The medical relief set-up in our county is handled by the welfare worker.

All members of the society attended the postgraduate course held at Creston. The county society, in cooperation with the State Department of Health, sponsored a diphtheria immunization campaign during the month of June. There were about four hundred children immunized. Individual members have given health talks to lay groups.

W. F. Amdor, Deputy Councilor

Clarke County. On the whole the society has been more or less inactive during the past year, inasmuch as we did not have any scientific meetings. Occasional business meetings were held. Relations between society members have been very agreeable and cordial. We have a one hundred per cent membership of the active physicians in the county.

Clarke County is operating under the state medical relief plan.

H. E. Stroy, Deputy Councilor

Decatur County. The year 1936 saw the Decatur County Medical Society functioning normally. The membership was unchanged except for the death of one of our life members.

Three members attended the laboratory course held at Creston and several scientific meetings were held locally. In cooperation with state organizations, diphtheria immunization and tuberculin testing programs were successfully carried out. A child health clinic was held at Lamoni and one at Van Wert. Several members of the society gave health talks to lay groups during the year.

J. E. McFarland, Deputy Councilor

Madison County. The Madison County Medical Society had a one hundred per cent membership in 1936. We had one new physician locate in the county who became a member.

The medical plan of the Iowa Emergency Relief Administration is still employed in our county for the care of the indigent.

One member of the society was made a Fellow of the American College of Surgeons and did some postgraduate work in Chicago during 1936.

A diphtheria immunization program was sponsored by the county society for the benefit of the school children of the county. Individual members gave health talks to lay groups.

We have no woman's auxiliary but there is some interest manifest at present in an interprofessional organization and we hope for a favorable outcome.

C. B. Hickenlooper, Winterset

Ringgold County. Our society has maintained its one hundred per cent membership. We have held regular meetings throughout the year, the programs of which are business and scientific. We have used local talent exclusively, which at least makes for good fellowship among the members.

Because our county went on state relief, we have not been able to renew our very satisfactory lump sum contract for the care of the indigent. The society as a unit went on record as opposed to the state set-up, setting this forth in a resolution presented to the Board of Supervisors, who in turn referred it to the State Director of Relief. To date, we have not reached a definite agreement. It seems to be understood, however, that the present contract will be continued until satisfactory arrangements can be made.

A county wide diphtheria immunization program was conducted in the summer, and a tuberculin testing program in the early winter. Two members from the county attended the postgraduate course in Creston in the spring.

The professions of this county are quite favorable to interprofessional organization, but as yet no organization has been formed.

With a one hundred per cent membership and regular meetings, it is felt by the members of the society that we are functioning very satisfactorily.

E. J. Watson, Deputy Councilor

Union County. The Union County Medical Society lost two members in 1936 and gained one. We are operating under the medical plan of the Iowa Emergency Relief Administration, which is not satisfactory.

A diphtheria immunization program was carried out at Cromwell and the doctors have cooperated in examining the 4-H girls and boys and in the health program of the Boy Scouts.

We have a fully organized interprofessional group.

The annual meeting of the society is held the first Wednesday in January. Staff meetings are held the first Wednesday in each month.

Howard G. Beatty, Deputy Councilor

Warren County. The Warren County Medical Society held three meetings during the year. Most of the members attend the Polk County Medical Society meetings rather regularly and these are substituted for our own scientific programs. Three members dropped their membership the past year. One new man moved into the county and is making application for transfer of membership.

Medical relief has been carried on under the plan of the Iowa Emergency Relief Administration with a satisfactory degree of success. Cuts in the fees sent in have been small. The men in the program have cooperated in not doing extra work and the relief office has kept medical orders at a minimum.

The fact that our relief load has been small,—about 150—giving us an average of \$2.00 per family per month, has accounted for the small cuts.

Two members took advantage of the postgraduate course offered by the Speakers Bureau at Chariton.

Public health work: The 4-H Club girls were examined at the high school in an all day clinic by the members of the society. This method seems preferable to examination by individual doctors. Tuberculin testing programs were carried out at Lacona and Indianola under the auspices of the Iowa Tuberculosis Association and the reactors were x-rayed. The educational aspect of this program makes it well worthwhile.

Three health talks were given by members to lay groups. One member conducted a discussion on socialized medicine and sickness insurance at the Indianola city forum. There were two appearances by members on county society programs outside Warren County.

An interprofessional group is now in the process of organization.

Ernest E. Shaw, Deputy Councilor

Eleventh Councilor District

Submitted herewith are reports from all the counties comprising the eleventh councilor district. As far as the district as a whole is concerned, there is great dissatisfaction with the medical relief set-up under the Iowa Emergency Relief Administration as it is now functioning. This dissatisfaction is based largely on the so called horizontal cut in the bills of the physicians as rendered and approved by the local auditing committees.

All of the counties in this district are actively participating in the cancer educational campaign and are exerting their best efforts to make it a success.

M. C. Hennessy, Councilor

Audubon County. The Audubon County Medical Society boasts one hundred per cent membership this year. During the past year we have had four meetings of the county society and met in conjunction with the Cass County Medical Society for five meetings. Several members of the society are taking the lecture courses being given at various points in the district. We participated in a county wide campaign against diphtheria, in which about six hundred children were inoculated against this disease.

W. H. Halloran, Deputy Councilor

Cass County. The Cass County Medical Society held five meetings during the year of 1936. The membership of the Audubon County Medical Society met with us at each of the meetings, which added to the number attending and to the interest in the meetings.

A majority of the members of the Cass County Medical Society have attended all the group meetings of the Southwestern Iowa Postgraduate Association but we fully realize the necessity of maintaining the local unit, the county organization, and our own meetings have been interesting and well attended.

R. L. Barnett, Deputy Councilor

Fremont County. The Fremont County Medical Society has not been very active during the past year. Two meetings of the county society were held, a business meeting early in the year and a scientific meeting in the fall, at which time Drs. Jack Treynor and Karl Werndorff of Council Bluffs presented the program. All but two of the eligible physicians in the county were members in good standing of the society in 1936.

The auditing committee of the county met each month and reviewed the bills submitted to the Iowa Emergency Relief Administration.

The contagious diseases have not been very prevalent so no campaign has been undertaken.

A. E. Wanamaker, Deputy Councilor

Harrison County. During the past year the Harrison County Medical Society has met on the average of once a month for at least ten months during the year, with an average attendance of about sixty per cent of our membership. We have had three new physicians locate in the county and two removed. Our membership status has remained the same.

We operate under the medical plan of the Iowa Emergency Relief Administration in caring for the indigent of the county.

The only public health program undertaken in the past year was an immunization campaign against diphtheria.

E. J. Cole, Deputy Councilor

Mills County. The Mills County Medical Society has not been very active the past year as our annual meetings have been the only times we have met except for a combined meeting with the Southwestern Iowa Postgraduate Association in the early winter. This meeting was held at Glenwood and was centered about a scientific program on the subject of obstetrics.

Thomas B. Lacey, Deputy Councilor

Montgomery County. The Montgomery County Medical Society has functioned very well in the past year. All new physicians locating in the county are members of the society. With the exception of one month, when weather conditions made it impossible, meetings have been held monthly, with one of our own members presenting a scientific paper. The county society purchased a projection machine and films of different types are displayed at each meeting.

During the year a woman's auxiliary to the county society was formed and is actively functioning.

No general immunization programs have been undertaken.

One member of the society is taking postgraduate work.

J. Clark Cooper, Deputy Councilor

Page County. The Page County Medical Society was very inactive during the year 1936. There was but one regular meeting and that was the annual meeting in December for the purpose of electing officers. At this meeting the district councilor ap-

peared on the program and gave us a description of the trend of matters in the medical relief set-up under the Iowa Emergency Relief Administration. This resulted in the adoption of a resolution to the effect that something should be done to correct the situation. A copy of the resolution was sent to the State Society President and Chairman of the Medical Economics Committee. Representatives of Page County met with representatives from other counties, protesting against the manner in which the plan is working, at a meeting of the Medical Economics Committee of the State Society in Des Moines.

A large percentage of the members attended the monthly meetings of the Southwestern Iowa Postgraduate Association, which includes most of the counties of the eleventh councilor district. Several members are attending the refresher course being given in Red Oak.

J. F. Aldrich, Deputy Councilor

Pottawattamie County. The membership total for the Pottawattamie County Medical Society on December 13, 1936, was fifty-eight as contrasted with a total of fifty-two on December 13, 1935. This gain of six was represented as follows: a gain of nine members—three delinquent members reinstated, one new member transferred from another county society and five new members elected from the county—and a loss of three—two members becoming delinquent and one being transferred to another county.

The medical relief program, as continued under the Iowa Emergency Relief Administration, has received the usual criticisms and dissatisfactions arising out of the following grievances:

1. The horizontal cut. The medical profession is the only group which is asked by the Iowa Emergency Relief Administration to accept payment on such an unsatisfactory basis.

2. Referred work done by physicians of this county for patients residing in surrounding counties has been paid for on the basis of the lowest listed fee in the IERA schedule.

3. The IERA authorities have continued to be rather arbitrary in their promulgation of instructions, usually failing to consult the doctor or take him into consideration before such instructions are issued.

4. Under the new rural resettlement program, an unsatisfactory situation is arising in that any payment which may be derived for work done under this authority will be handed direct to the patient with no assurance of its reaching the physician or hospital.

However, this county society has been successful in effecting a contract with the local Board of Supervisors under which all unemployed unemployables are segregated from the general relief rolls in the matter of medical care and such work is paid for on a fixed fee schedule, without alteration or deduction.

The following physicians have appeared as guest speakers on our programs during the year: H. L. Beye, A. E. Hertzler, H. W. Rathe, V. P. Blair, Wa-

ter Abbott, C. H. Watkins, C. T. Maxwell, W. K. Hicks, P. D. Knott and K. A. Menninger.

The Pottawattamie County Medical Society has been unanimous in opposing the immunization programs as advanced by the State Board of Health.

There is now in organization in this county a local interprofessional society, which will include representatives of the associations of nurses, druggists, dentists, veterinarians and physicians.

In the very near future, this society will have in operation its medical credit bureau, which will be affiliated with an organization equipped to finance old and new medical accounts. An exhaustive investigation of this plan has been made and we have every reason to feel that it will be successful locally and should represent the most constructive possible answer to the threat of socialized medicine.

Jack V. Treynor, Deputy Councilor

Shelby County. The membership of the Shelby County Medical Society for 1936 included ten members, with only one eligible non-member in the county. During the year one member moved from the county and one new physician located here.

The year brought a splendid increase in the interest in the society, there being a total of seven meetings with nearly always one hundred per cent attendance of members. There were scientific programs with guest speakers for four of the meetings; the other meetings were devoted to business and discussions of topics of local interest, notably a county society plan for all immunization campaigns and our place in the projected district health unit set-up under the Social Security Act.

We have a fee schedule arrangement for medical care of relief clients, which is for the most part quite satisfactory. The best part of this arrangement is that the relief clients are allowed their choice of medical attendant and authorized services are always paid according to the schedule.

During June the society cooperated with the State Department of Health in conducting a diphtheria immunization campaign, during which 253 children were immunized under the campaign plan and seven hundred additional private patients. A follow-up Schick testing campaign was carried out during December with very few positive tests showing in the immunized group. From the fees which the doctors received for their services, enough money was retained to pay State Society dues for 1937 for all members of the county society.

During the Infant Welfare Clinic held in connection with the Shelby County Fair, members of the society served as examining physicians.

We plan for continued frequent meetings during 1937 and although our group is small in numbers, the getting together for a prepared program or for a discussion of mutual interests has been very much worthwhile, particularly in welding our members together so that our Society speaks as a unit in any matter relating to the public.

A. L. Nielsen, Deputy Councilor

Dr. Felix A. Hennessy: Mr. Chairman, I move the acceptance of the preliminary report of the Council, the individual reports of the Councilors, if they do not wish to amend them, and also the supplementary report which the Executive Secretary can read from the minutes of the Council meeting.

Executive Secretary Nelson: Minutes of the meeting of the Council, March 20, 1937.

"Discussion of medical plan of the Iowa Emergency Relief Administration. Council adopted a motion to recommend to the House of Delegates that the Iowa State Medical Society refuse to cooperate with this medical relief set-up until a satisfactory fee schedule was agreed upon and an agreement reached that there should be no horizontal cuts from this schedule."

President Sawyer: It has been moved and seconded that the preliminary and supplementary reports of the Council and the reports of the individual Councilors be accepted. Are you ready for the question?

The question was called for, put to a vote and carried.

President Sawyer. Report of the Delegates to the American Medical Association. Dr. Vernon L. Treynor. (Absent). Dr. Fred Moore.

REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

The Eighty-seventh Annual Session of the American Medical Association was held at Kansas City, May 11 to 15, 1936. The House of Delegates convened in the ballroom of the Hotel Muehlebach and was called to order by the Speaker, Dr. N. B. VanEtten. Following the preliminary report of the reference committee on credentials the Speaker read his annual address. Among other things he said, "As selected representatives you will fail in your duty if you sit silently because of diffidence or disinterest. Members who are here for the first time may fear to express themselves because they are unfamiliar with our procedure. May I assure them that they will not fail of recognition or of opportunity so long as they discuss the problems which are before the House and remain within reasonable parliamentary bounds. You are the policy makers of this democratic organization. I urge you to exercise all of your constitutional privileges. Your Speaker desires that every question shall be thoroughly debated in order that a reliable consensus may emerge. Ill advised or malicious critics frequently accuse the A. M. A. of failure to represent American medicine. These critics claim that a small group of officers is responsible for originating reactionary and obstructive policies. If the Association is not progressive the responsibility rests on the House of Delegates." The Speaker reported that since the 1935 meeting twenty-five officers and former members of the House of Delegates have died. Following the presentation of his address the Speaker then called upon President James S. McLester, who delivered his address to the House of Delegates.

He said in part, "In addressing this body of medi-

cal men I feel that it is appropriate to tell you that after completing a year of service as your President I have come to entertain a very high opinion of the American physician. I am thinking not only of the scientific opinion and professional usefulness, but also of his splendid traits of character and his fine qualities of heart. There have been times during the past two years when it appeared that disaster was just ahead, when the government in its efforts to extend social reform appeared to reach out for control of medical practice, and those who are familiar with the results of such governmental control in other countries contemplated this step with grave misgivings. But the leadership we exercised by you over a united medical profession and its influence on public opinion were wise and effective and no such change was accomplished. Can we afford to rest here? Will history repeat itself in the United States of America? The train of events which I have described as having taken place in European countries is already well started in this country, as can be seen in the maternal welfare, old age pension, and other provisions of the Security Act recently enacted by Congress. Will the politicians of the near future extend their control as politicians have already done elsewhere, to medical care? Certainly, if I have read history right, the attempt will be made. Whether it will succeed will depend in large measure on the attitude of the medical men of America." Dr. McLester highly commended the activities of the various officers and the members of the standing committees during the past year. In closing he expressed his great distress over the illness of President-elect Mason. He said, "During our brief period of service together I have come to feel a deep affection for him and entertain a high regard for his professional ability."

Dr. Brien T. King, Delegate from Washington, read Dr. Mason's address as President-elect. There was much in this address of very great interest to the medical profession and it would be profitable to every member of the A. M. A. to read this address in full as it appears in the May 23, 1936, issue of the Journal of A. M. A. The critical illness of Dr. Mason, which denied him the privilege of attending the session, resulted in a situation which was poignantly dramatic. The question arose as to whether he could be installed as President in absentia. The Judicial Committee was asked to give the House of Delegates an opinion on this question at the session on Tuesday afternoon. During the session on Monday all of the officers and permanent committees presented their reports. Many resolutions and communications were read and, as is customary, referred without debate to the proper reference committees. The reports of officers and the resolutions presented covered a wide range of subjects: economics, medical education, hospitals in their relation with doctors, interne training, etc., public relations, hygiene and public health, ethics, and many on miscellaneous matters.

The House of Delegates was called to order Tuesday morning, May 12. The Chairman of the Com-

mittee on Credentials reported a total registration of 166 delegates. The Judicial Council reported on interpretation of the Constitution and By-laws as follows: The President shall be installed at the opening general meeting of the scientific assembly of the annual session following that in which he is elected. The language of the Constitution is mandatory. Each member of the Judicial Council has profound sympathy with our President-elect. It would be happy to find some way which would be practical to advance the President-elect to the presidency at this time, but it must admit failure under the present Constitution and By-laws. It cannot recommend to the House of Delegates any procedure which would evade or nullify the Constitution and By-laws. The Council therefore recommends that no action be taken by the House of Delegates and that the present President continue in office as provided in Article 6, Section 2, of the Constitution. The motion was made that the recommendation of the Judicial Council be approved and adopted. A substitute motion was offered to the effect that Dr. J. Tate Mason be installed as President at the opening meeting on Tuesday, May 12, in a manner prescribed by the Judicial Council. The substitute motion was seconded and carried.

Reports from the following Reference Committees were read: Medical Education and Hospitals; Section Work; Reports of Officers, Board of Trustees and Secretary; Miscellaneous Business, Legislation and Public Relations, etc.

During the morning Lord Horder of England was escorted to the platform and introduced by the Speaker. In his address he spoke at some length on the conditions of medical practice in England and gave much interesting information as to the situation in his country. Following his address Dr. T. C. Routley, Secretary of the Canadian Medical Society, was presented by the Speaker. He made a brief address in which he spoke of his good fortune in having attended the American Medical Society in every session for 13 years. He expressed deep appreciation for the valued services rendered to his Society by the A. M. A. and particularly of the many courtesies extended by Olin West, Secretary of A. M. A.

On Tuesday afternoon the House of Delegates went into executive session to discuss various questions of more or less importance. After arising from executive session resolutions were introduced among which were: Appointment of Committee to propose amendment to By-laws providing for fitting recognition to fellows rendering distinguished service in the science of medicine; resolutions concerning graduates of medical schools of foreign countries. In these resolutions it was stated that there are more than 1500 American students attending medical schools in foreign countries. Resolutions requiring that the state association be notified when a hospital is threatened with removal from the accredited list. Report of Committee on Legislative Activities. This report

was of necessity very lengthy and covered many subjects of special interest.

At this time Mr. Shaproth of the Amercian Bar Association was introduced by the Speaker. In the course of his remarks he said, "I want to say that I have been very much impressed with this deliberative body. I feel that a representative parliament of the medical profession is one of the reasons for the greatness of your national association. At Boston this summer a provision will be introduced for an amendment to our constitution to create a House of Delegates of the legal profession."

Following the address of Mr. Shaproth the Speaker presented Dr. Leon Asher, Bern, Switzerland. Doctor Asher expressed his appreciation for the honor of being with us. He said, "We all know in Europe that the American medical schools are on a very high plane and that this is principally due to the great help which the A. M. A. renders the universities. Medical ethics is just as important for the medical profession as medical knowledge and I congratulate the A. M. A. and the leaders who are sitting here for their high achievements."

Dr. George Edward Follansbee presented the following report for the Judicial Council: Complying with the instructions of the House of Delegates, the Council reports the following procedure for the installation in absentia of President-elect Dr. J. Tate Mason: The Council recommends that President McLester shall formally and officially declare President-elect Dr. J. Tate Mason duly installed in absentia as President, and designates as a committee representing this House of Delegates to convey to President-elect Dr. J. Tate Mason and the members of his family at this time the action so taken—Drs. Brien T. King, John H. Fitzgibbon, John H. O'Shea, Ralph A. Fenton.

The Reference Committee on Hygiene and Public Health presented a report dealing largely with occupational diseases. They recommended that the Board of Trustees continue its study of Industrial Hygiene and Occupational Diseases. Various other reports of miscellaneous nature were introduced, following which the election of officers was held and resulted as follows:

Dr. J. H. J. Upham, Columbus, Ohio, President.

Dr. Charles Gordon Heyd, New York, Vice-President.

Dr. Olin West, Chicago, Secretary.

Dr. Herman L. Kretschmer, Chicago, Treasurer.

Dr. N. B. VanEtten, New York, Speaker of House.

Dr. H. H. Shoulders, Nashville, Tennessee, Vice-Speaker of House.

Dr. Thomas S. Cullen, Baltimore, Maryland, Trustee.

Place of 1937 Annual Session was designated as Atlantic City, New Jersey.

On motion the House of Delegates adjourned.

Of necessity this report inadequately covers the many and varied activities of the House of Delegates. A report of the proceedings was published in full in

the May 23 to 30, 1936, and June 6, 1936, issues of the Journal of the A. M. A. It should be carefully read by every member of the Society.

V. L. Treynor

Dr. Fred Moore: Mr. President, Dr. Treynor prepared the report. It is published in the Handbook. I move that it be approved.

The question was called for, put to a vote and carried.

President Sawyer: Committee on Constitution and By-Laws, Dr. Walter Brock, Chairman. Dr. John H. Henkin will make that report.

REPORT OF COMMITTEE ON CONSTITUTION AND BY-LAWS

House of Delegates, Iowa State Medical Society:

Your Committee on Constitution and By-laws herewith submits its report in accordance with the provisions of the By-laws.

The following amendments to the Constitution were presented for first reading at the 1936 session and accordingly come up for final reading and consideration at this session of the House of Delegates.

1. Article VIII, Section 3. Repeal the present Article VIII and substitute for it the following: "The officers of this Society shall be elected by the House of Delegates on the last day of the Annual Session and no person shall be elected to any office who has not been a member in good standing for the past five years."

(The purpose of this amendment is to make it possible for the House of Delegates to schedule its Friday meeting at any time of day it chooses, and further to make it possible for any delegate, with proper qualifications, to be eligible for election to any office in the State Society.)

2. Article IV, Section 2. Substitute for that section the following: "Life Members—Any active member of this Society may be elected to life membership in the Society by vote of the House of Delegates, provided he has been recommended for such membership by his county society. They shall receive the transactions of the Society, and enjoy all the privileges of members, but shall be exempted from payment of the annual dues."

This amendment was made from the floor at the Friday morning meeting of the House of Delegates at the 1936 meeting and is therefore ready to be voted on at this session. This Committee, after consultation with the administrative headquarters of the Society, wishes to recommend that the above amendment should not be adopted. The term "active" member will be open to dispute as it might be interpreted to mean that a physician who is no longer in active practice cannot be made a life member. Upon the recommendation of your State Society Secretary, we wish to suggest the substitution of the following for the amendment proposed above: "Life Members—Any member in good standing of this Society may be elected to life membership in the Society by vote of the House of Delegates, provided he has

been recommended for such membership by his county society. Life members shall receive the transactions of the Society and enjoy all the privileges of members and shall be exempted from the payment of the annual dues when they are no longer in active practice."

At a meeting of the Committee on March 20, the members agreed to propose the following changes in the By-laws for your consideration at this 1937 meeting of the House of Delegates:

1. Chapter VI, Section 5. Omit that portion of paragraph 4, page 13, which reads "during the intervals between sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees and may appoint emergency committees."

2. Chapter VI, Section 5. Add a paragraph at the conclusion of this section, as follows: "One Trustee shall be elected from the area comprised of the first, second, third and fourth councilor districts, one from the area comprised of the fifth, sixth and seventh councilor districts and one from the area comprised of the eighth, ninth, tenth and eleventh councilor districts. In the event that any elected Trustee shall move from his own district to another as defined above, his office shall be immediately vacated and his successor appointed, or elected, as provided in the By-laws."

3. Chapter VII, Section 5. Add a paragraph to be new Section 5, as follows: "During the interval between the annual meetings, the Council shall have such power and authority of the House of Delegates as to enable it to hear the reports and supervise the action of the various committees when necessary in order to carry forward the work of the Society. It may appoint emergency committees."

4. Chapter IX, Section 2. Add another sentence at the conclusion of this section as follows: "If any county society neglects to make the required reports for a period of two consecutive years, its charter shall stand automatically suspended and the society may be reinstated only upon appeal to the Council, which shall have full authority to make such reinstatement."

5. Chapter IV, Section 7. Omit entire section and renumber following sections accordingly.

6. Chapter XII, Section 1. In the sixth line thereof omit the words "House of Delegates" and substitute the word "Council".

7. Chapter XII, Section 3. In lines 2 and 4 omit the words "House of Delegates" and substitute therefor the word "Council".

8. Chapter XII, Section 5. Before the last sentence, insert a new sentence as follows: "The Council shall have full authority to decide any question arising involving this section and the decision of the Council shall be final."

9. Chapter VII, Section 6. Add a paragraph to be new Section 6, as follows: "All authority concerning the granting of charters, or the revocation of charters of any constituent county medical society shall rest entirely with the Council and any decision of the Council in these matters shall be final."

10. Chapter XII, Section 13. Add a section to be Section 13, as follows: "Any By-law of any county medical society now in force which in any way conflicts with the Constitution and By-laws of the Iowa State Medical Society, shall be from this date, May 14, 1937, void and of no effect, and from this date forward all By-laws proposed by any county medical society shall be submitted to the Council for its approval or disapproval. No By-laws may be put into effect by any constituent county medical society without the approval of the Council."

These amendments just outlined have been recommended by the Council and your Committee on Constitution and By-laws urges their adoption.

The following amendment has been recommended by your State Society Secretary and is submitted by our Committee for your consideration.

11. Chapter XII, Section 5. Following the sentence ending with the word "membership" add a new sentence, as follows: "Any member who is convicted of a felony, in which his moral turpitude is involved, automatically severs his affiliation with his county medical society. He may be reinstated upon the discretion of his county medical society."

(This amendment is in conformance with a motion adopted at the Conference of State Society Secretaries in Chicago at the American Medical Association, in November, 1936.)

Dr. John H. Henkin: Mr. Chairman and members of the House of Delegates: We wish to report that the amendments to the Constitution, included in our report, come up this year for final action.

Dr. Thomas F. Suchomel: I *move* that the report of the Committee on Constitution and By-Laws be taken up section by section and acted on according to the By-Laws.

President Sawyer: It has been moved and seconded that the report of the Constitution and By-Laws Committee be taken up by sections. All in favor please say "aye"; contrary, the same sign; *it is carried*.

President Sawyer: Do I hear a motion on the first proposed amendment?

Dr. Boice: I *move* the adoption of this amendment to the Constitution.

Dr. Erskine: I think the section as it now stands should be read and also the new section as proposed should be read. That should be done in every case.

President Sawyer: The Secretary will read the old section.

Secretary Parker read Article VIII, Section 3, as it now stands and then with the amendment proposed by the Committee on Constitution and By-Laws.

Dr. Fuller: Mr. President, I would like to ask for information. What provision does the Constitution make for a vote on the amendment to the Constitution, a majority vote or a two-thirds vote?

President Sawyer: Majority vote the Secretary says. All in favor say "aye"; contrary, the same sign. *It is carried*.

Dr. Fuller: Mr. President, Article XII reads:

"The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at the Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and shall have been published in the JOURNAL of this Society."

Secretary Parker: The Secretary stands corrected.

President Sawyer: You are correct. That was a unanimous vote, so it is all right. What is the next amendment, Dr. Henkin?

Dr. Henkin: Article VI, Section 2. I suppose you will want the present section read.

Secretary Parker read the article concerning life membership as it stands at present and then with the proposed change.

Secretary Parker: As a final recommendation on this matter of life membership, the following proposed amendment is recommended:

"Life Members—Any member in good standing of this Society may be elected to life membership in the Society by vote of the House of Delegates, provided he has been recommended for such membership by his county society. Life members shall receive the transactions of the Society and enjoy all the privileges of members and shall be exempted from the payment of the annual dues when they are no longer in active practice."

Dr. Suhomel: I would like to ask a question. Will this new amendment as proposed by the Constitution and By-Laws Committee have to lay over one more year?

President Sawyer: I think it will.

Secretary Parker: Yes, it will.

Dr. E. B. Williams: I *move* we adopt the first amendment to Article IV, Section 2, as proposed last year.

President Sawyer: Is there any discussion?

Secretary Parker: Mr. President, may I have a word on that subject? My reason for hoping that you would vote this down and leave the substituted amendment for action next year is this: First, we have approximately 175 life members of the State Medical Society today. A number of those doctors are beyond the age of being able to obtain commercial insurance. The Iowa State Medical Society is obligated to defend those men in malpractice suits, and yet they are paying no dues. If applications for life membership continue, I don't know where we will be.

We proposed the amendment that they be granted life membership on the recommendation of the county society and pay dues as long as they are in active practice. When they are not in active practice, there would be no danger of any malpractice.

Dr. Williams: I don't see any necessity of having Life Membership if you are going to have it that way. Past experience shows there is no great amount of danger. If they pay dues for thirty years, it seems to me they are entitled to something. I think your figures will show that in the past your rate of insurance has been very little. You have a big surplus.

Dr. E. E. Shaw: There is only one point in my mind. The present provision in the Constitution is that a man must be a member thirty years before he becomes a Life Member, in which case he has paid to the State Society dues of \$10 a year for thirty years, and he is probably entitled to protection from then on.

This present proposal lets the county society, if it so desires, recommend the election of a man as Life Member even if he has been a member only one year. That is a hypothetical case.

There is no protection in the amendment being considered as to the age limit when men are to be made Life Members. A man may have been a member for thirty years, in which case I think he is entitled to protection the rest of his life. If I were practicing for five years and for some reason or other was considered by my society as worthy of Life Membership, I would have medico-legal protection the rest of my life for nothing. That is a different obligation than under the present ruling.

President Sawyer: Do you understand these two amendments? If not, I am going to have Dr. Parker explain them to you again so you will understand them. Then we will put that motion.

Secretary Parker: The only question before the House, Mr. President, is the approval or the disapproval of this first amendment. If that amendment is disapproved or voted down, then we propose the substitute amendment. You are not voting at all on the substitute amendment. The substitute amendment would just constitute the first reading and would have to lay over another year. I am personally pleading for the defeat of the proposed amendment.

Dr. George C. Albright: As a member of the Medico-Legal Committee, may I speak? The proposed amendment made last year was a bone of contention then. As published in the Handbook, it states here that it is liable to be open to misinterpretations and that is the reason they do not want this approved. The reason which the Secretary has given is an entirely different reason. It seems to me it is something the members of the House ought to think about.

In regard to what this gentleman said about Life Memberships for those having been members one year or thirty years, our Constitution now provides that any man who has been in practice thirty years may be elected to Life Membership and, also, it provides that any other worthy member of the Society may be so designated by the county society.

So far as being open to misinterpretation, it seems to me as though the substitute they wish to propose is a good deal more liable to misinterpretation, for who shall say when a man is or is not in active practice? As this now reads, he would not be eligible to Life Membership until it was decided by some authoritative body that he was no longer in active practice. Therefore it practically excludes anybody from Life Membership. It seems to me that the amendment as proposed a year ago and now up for adoption should be adopted.

President Sawyer: Is there any further debate on this amendment? If not, all in favor of the amendment say "aye"; contrary, the same sign. *The amendment is lost.* The substitute amendment will lay over for one year.

We will now consider the next amendment.

Dr. Henkin then read the eleven proposed amendments to the By-Laws included in the Committee report. He stated that this constituted their first reading and they would have to lay over one day for consideration.

President Sawyer: The next order of business is the report of the Finance Committee.

REPORT OF THE FINANCE COMMITTEE

The Finance Committee of the Iowa State Medical Society met in the central office in Des Moines on Tuesday, March 9, 1936. All members of the Committee were present.

Two checks which were outstanding at the time the 1936 report of the Committee was made, had in the meantime been cleared and were accounted for.

The Committee reviewed the audit for the fiscal year, 1936, including all bills with their corresponding orders and checks. Twenty-four checks were outstanding on December 31, 1936. These were listed and filed to facilitate the checking of the 1936 audit. At the time of the Committee meeting, all but one of these outstanding checks had been cleared and were accounted for. With one minor correction, the 1936 audit of the books of the Iowa State Medical Society, prepared by Mr. Mills of Widdup and Company, was accepted by the Committee.

Notes for 1932, 1933, 1934, 1935 and 1936 dues in the amount of \$427.50 are being held by the Secretary. Of this total, \$66.00 is collectible for 1932 dues, \$234.00 for 1933 dues, \$37.50 for 1934 dues, \$80.00 for 1935 dues and \$10.00 for 1936 dues.

Ernest C. McClure, Chairman
A. S. Bowers
L. L. Carr

Dr. Ernest C. McClure: I *move* that the report of the Finance Committee, as published in the Handbook, be approved.

The motion was put to a vote and carried.

President Sawyer: The report of the Committee on Medical Economics.

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The first meeting of the year was held in the State Society office on September 29, 1936.

The Council and the Committee on Medical Education and Hospitals had referred to the Committee the matter of insurance for hospitalization and medical service. This was explained by the proponents. The Committee advised that they complete their plan, and secure a charter from the Insurance Commission before submitting it to the Committee for action.

The plan of insurance against hospitalization of

the Sentinel Hospital Insurance Company of Des Moines was presented for consideration. The Committee decided that such plans were not medical problems and no action was taken.

The A. P. Stevens and Associates Collection Agency of Cedar Rapids, Iowa, applied to the Committee for approval. The Committee requested the usual investigation of this company before action could be taken. The information secured did not warrant the Committee granting its approval.

There was also a discussion of the problem of medical relief. The Committee was of the opinion that this is a local problem and the plan of operation should be determined by the local county medical society. The belief was expressed that wherever possible medical relief should be handled entirely locally.

T. F. Thornton, Chairman

Dr. Thornton: Mr. President and members of the House of Delegates: I wish to *move* the approval of the report as it appears in the Handbook. Then I wish to make a supplemental report. This supplemental report is rather lengthy and I ask your indulgence. We have had several important things come up during the past few months that the Committee feels should not be passed over lightly.

"The Medical Economics Committee met January 21, 1937, in the State Society office. Dr. James C. Hill of Newton was the only member unable to be present. Others in attendance were: Prince E. Sawyer, Sioux City, President; Robert L. Parker, Des Moines, Secretary; J. F. Aldrich, F. H. Clark and F. K. Burnett of the Page County Medical Society; R. A. Becker and Wm. S. Greenleaf of the Cass County Medical Society; J. N. Goodman of the Clarke County Medical Society; E. E. Shaw of the Warren County Medical Society; O. N. Glesne of the Webster County Medical Society; and T. C. Denny, Des Moines, Medical Director of the Iowa Emergency Relief Administration.

"1. The first order of business was a discussion of emergency medical relief. The meeting was called primarily as a result of a letter to the officers of the State Society and to the Medical Economics Committee from the Page County Medical Society, sending a copy of a resolution passed by that county condemning the set-up of the emergency medical relief plan and asking that steps be taken by the Society to remedy the situation. Members of several counties, some having similar unsatisfactory experience and some having satisfactory experience with this plan, had been called in for the conference. Main points of criticism against the plan brought out in the discussion were regarding the cuts made in fees after they had been audited by the committee in the county to conform with minimum schedules set out in the plan, and the fact that the allotment made to the counties for medical relief was not accumulative. Warren County reported favorable experience, due to the fact that they had an efficient relief worker and, being a small county, came under the minimum

allotment of funds, approximating \$2.00 per relief case. Dr. Denny explained that he felt the reason for so much recent complaint of cuts was due to the fact that although WPA workers were not included in relief load and allotment made to the county for medical relief for them, still when they required medical care, the funds came out of the allotment for those on relief. He said he was recommending additional appropriation for medical care for WPA workers, and that he felt this would do away with much of the present dissatisfaction. At the end of the discussion the Committee decided to interview the State Relief Committee at its January 30 meeting and recommend that, instead of the present allotment of \$1.50 per relief case for medical care per month, the allotment be \$2.00 per case which, representing 4.5 people, would probably make it possible for the minimum fees set out in the plan to be paid. They would also recommend that the medical relief fund be made accumulative so that the months when medical care was slight would make up for those months when the medical relief load was very heavy.

"2. Review of the correspondence regarding the A. P. Stevens and Associates collection agency, which had applied for approval. Committee voted not to extend its approval.

"3. Discussion of the Marathon Finance Company. Outline of its program in Iowa given by their representative. Explanation of their position with relation to the Wisconsin State Medical Association, which disapproved their plan of operation. Since no members of the Iowa State Medical Society using their services have had undesirable experience, the Committee voted to renew its approval of the company. Committee also voted to approve the company posting a bond to the State Society of \$25,000. The suggestion was first made by a county society and agreed to by the company as evidence of its good faith toward members of the Iowa State Medical Society.

"4. Discussion of hospital insurance plans and bills. Approved the proposed bill of the Iowa Hospital Association authorizing formation of non-profit hospital insurance service, provided it was passed upon by legal counsel and that the term 'hospital services' was well defined so as to exclude all medical service.

"5. Discussion of proposed amendment to Workmen's Compensation Law. Committee moved to approve this amendment if legal advice showed that it in no way jeopardized the interests of the medical profession.

"6. Discussion of proposed bill of opticians and morticians. Approved subject to approval of Legislative Committee.

"7. Discussion of suggestion of the Council that the Medical Economics Committee study plans of medical care for low income group.

"A special meeting of the Medical Economics Committee was held on January 30, 1937, when Dr. A. C. Moerke and Dr. T. F. Thornton met with the State Relief Committee and made the suggestions agreed upon at the full committee meeting. Dr. Denny said he realized medical relief funds could not

be made accumulative; made his suggestion relative to additional allotment of funds for medical care for WPA workers. State Relief Committee approved Dr. Denny's suggestion.

"Drs. Moerke and Thornton attended a meeting on February 14, 1937, at the Palmer House in Chicago, with representatives from the medical societies of Ohio, Indiana, Illinois, Missouri and Iowa, together with Dr. R. L. Williams and Mr. Hayes, medical director and regional director, respectively, of the Rural Resettlement Administration. A general discussion of fees for the physicians doing work for clients of the Rural Resettlement Administration, was held. No definite action was taken, but it was the opinion of all present that each state should find out if there was an actual need for a medical program for these clients in its own territory.

"On March 20, 1937, the Medical Economics Committee met with the Council and separately to consider the advisability of devising a medical program for Rural Resettlement clients in Iowa. The Committee decided to investigate the problem before taking any action and drew up a questionnaire to be sent to all county society secretaries which would provide the necessary information concerning this matter."

I might state we have sent those out, and they came back too recently for us to be able to give a final report on them.

"At that meeting the Committee concurred in a motion of the Council to recommend to the House of Delegates that the Iowa State Medical Society refuse to cooperate with the medical relief set-up of the Iowa Emergency Relief Administration until a satisfactory fee schedule could be agreed on and an agreement reached that the fee schedule would not be cut. The Committee further amplified that motion to include the medical program of the Rural Resettlement Administration.

"We recommend to the House of Delegates of the Iowa State Medical Society which is now in convention, that the Iowa State Medical Society request the Governor to appoint as one of the five members of the Social Security Board a member of the Iowa State Medical Society.

"The Medical Economics Committee passed a resolution memorializing the House of Delegates of the Iowa State Medical Society to memorialize, in turn, the American Medical Association to establish a Department of Public Relations whose function shall be to carry on a permanent campaign of publicity and advertising."

I *move* the adoption of the report, with this supplemental report.

Dr. D. W. Harman: I do not quite understand this Rural Resettlement proposition. Just what disposition have you made of that?

Dr. Thornton: We concurred in a motion of the Council to recommend to the House of Delegates that the Iowa State Medical Society refuse to cooperate with the medical relief set-up of the Iowa Emergency Relief Administration until a satisfactory fee schedule could be agreed on and an agree-

ment reached that the fee schedule would not be cut, and we further amplified the motion to include the medical program of the Rural Resettlement Administration.

Dr. Harman: There is another thought that occurs to me. Under the present set-up of the Rural Resettlement Administration, the checks are sent to the individual families. Isn't there some way we can arrange to get around that? In half of our cases under the Rural Resettlement, the doctors never get the money. It is sent to the individuals for the purpose of paying the medical bills, but we don't get it. It is not sent to us; it is not sent to relief headquarters; it is sent directly to the individual who makes the application. I am just wondering if there isn't some way we can take care of that.

Dr. Thornton: Doctor, we have talked over all those angles and we haven't been able to reach an agreement yet. We are still working on it. We will have another meeting with Dr. Williams and Mr. Hayes. They are not here, but when they come we are going to see if we can't have a meeting and get this matter adjusted. Until we do, we are recommending the adoption of this motion.

Dr. Fay: In answer to the doctor's question, may I remind him that in North Dakota they had to set up a corporation in order to get any money at all. The doctors didn't get paid for their services. Now they have set up a corporation to which the money is paid, and then it is paid to the doctor. The American Medical Association frowns upon this arrangement, but nevertheless they had to go to that extent in North Dakota to get their bills paid. That is one angle that can be worked out.

Another angle is that this Rural Resettlement Administration is set up so they can buy cows, pigs, cattle, or whatever they need, and the retailer who sells gets his full price. There is no cutting of his price. They made no provision whatever for taking care of the sick. To my way of thinking, the thing to do is to refuse to have anything to do with it.

Dr. Harman: That is just the question I wanted to ask. In Mills County the Administration has sent out checks to their clients. Out of twenty-five checks which were sent during the past month, so far as I have been able to find out, only one doctor has received payment for his services. They say, "There is nothing we can do about it," yet we went ahead and did the work. The bills were sent in, and they gave us what they saw fit, not what we asked. It is mighty, mighty low, I can tell you that. It would be different if you could get even that small amount, but that is not possible. The relief client gets it and uses it before our bills are considered.

President Sawyer: Conditions are bad, Doctor, but I think we should adopt this report and let the Committee on Medical Economics keep working, and maybe they can arrive at a solution of this trouble.

Dr. Fuller: Within the past week, a man made application to the county for Rural Resettlement money. He owed the doctor \$300. Before he could borrow money to buy a mule, this doctor had to sign a waiver

giving back to that man any claim he had on him for \$300. I submit that fact to Dr. Thornton for consideration at the next meeting.

President Sawyer: It has been *moved* and seconded that the report of the Medical Economics Committee be adopted. All in favor say "aye"; opposed, the same sign. *It is carried.*

Report of the Committee on Medical Education and Hospitals, Dr. Erskine, Chairman.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

The only duty of this Committee during the past year has been to carry out the instructions of the House of Delegates in regard to the appointment of a fracture committee. We appointed the following executive committee of the fracture committee and its chairman has asked each county society to elect or appoint a representative on a large advisory fracture committee:

D. C. Conzett, Dubuque, Chairman.
Wm. G. Bessmer, Davenport.
B. J. Dierker, Fort Madison.
F. L. Knowles, Fort Dodge.
A. F. O'Donoghue, Sioux City.
V. A. Ruth, Des Moines.
W. E. Wolcott, Des Moines

Respectfully submitted,

A. W. Erskine, Chairman
B. J. Dierker
T. J. Irish

Dr. Erskine: Mr. Chairman, I have a short supplementary report.

"To the House of Delegates of the Iowa State Medical Society: A report on the organization of the Iowa Fracture Committee by Dr. Arthur Steindler, acting for the American College of Surgeons contingent of the Iowa State Fracture Committee.

"It will be on your record that the membership contingent selected by the American College of Surgeons through me, as temporary, elected chairman of this contingent, approached the Iowa State Medical Society in one of the meetings of the House of Delegates last year with the proposition of amalgamating this contingent with the one selected by the Iowa State Medical Society. The Iowa State Medical Society proceeded with the nomination of an Executive Committee representing the State Society contingent and headed by Dr. Donald C. Conzett of Dubuque as Chairman. With this Executive Committee, I met, representing the American College of Surgeons contingent.

"It was suggested by your Executive Committee and adopted: First, that amalgamation of the two contingents should be effected. Second, that the Executive Committee named by the State Medical Society should also function as the Executive Committee for the American College of Surgeons contingent with Dr. Conzett as Chairman, provided, of course, that the American College contingent agree to this. I have therefore sent out letters to each member of the American College of Surgeons contingent to vote on both points. The majority of the

answers received were affirmative on both points. Therefore, it appears that it is the common consensus of opinion that the two contingents should be amalgamated into one Iowa State Fracture Committee, and the officials of this Committee should be the same as elected by the Iowa State Medical Society for its contingent.

"This naturally closes my official relation with the movement, and I beg therefore to submit to you this report, with appreciation of your interest in the organization of this movement.

Arthur Steindler".

I move, Mr. President, that the report of the Committee on Medical Education and Hospitals, including this supplementary report, be accepted, and, further, that the Secretary be directed to write to Dr. Steindler, expressing the appreciation of the Iowa State Medical Society for his efforts in behalf of fracture education.

The motion was put to a vote and carried.

President Sawyer: Report of the Medico-Legal Committee, Dr. Ely, Chairman.

REPORT OF THE MEDICO-LEGAL COMMITTEE.

The Medico-Legal Committee has little to report concerning malpractice affairs, since the society has been called on to defend only four members against whom suits have been filed during the last year. Commercial insurance has become so popular with, and widespread among, our membership that we are finding it necessary to defend fewer members each year.

It would seem fitting that your attention be called to the loss we have sustained in the death of Charles M. Dutcher of Iowa City, who for many years acted as legal counsel for our Society. Mr. Dutcher occupied a rather unique position in the legal fraternity of Iowa, in that he possessed unusual talent in the field of medical defense. We feel that the medical profession of our state has been very ably protected against unjustified malpractice suits in the past and that the skill of Mr. Dutcher contributed largely toward making Iowa one of the safest areas in the union in which to practice medicine and surgery.

The death of Mr. Dutcher necessitates the appointment of some lawyer or lawyers to represent the Society in the same manner as did our former counsel. Our Committee, after extended and careful deliberation, came to the conclusion that it would be relatively impossible to secure the services of a single attorney who could cover the state as had Mr. Dutcher. Hence it was considered advisable to divide the state into four districts approximately equal and recommend the appointment of an able attorney to take care of our defense work in the district allotted him. It was thought that this arrangement would expedite the work, cut down time and traveling expenses, and please a greater number of our members. Our Committee, however, wishes it definitely understood that

recommendations concerning specific appointments have been made with the thought of providing able representation as the major consideration. Since the recommendations of the Medico-Legal Committee, with respect to the appointment of legal counselors, must be approved by the Board of Trustees, announcement of such appointments will be made by that official body.

F. A. Ely, Chairman
Geo. C. Albright
F. E. Bellinger

Dr. F. A. Ely: Mr. President, just a word supplemental to the printed report. Since that report was made, a little matter has come to the attention of our Society and the Medico-Legal Committee. Some committees of the American Bar Association, the Committee on Unauthorized Practice of Law and the Committee on Professional Ethics and Grievances, have taken it upon themselves to investigate the alleged infringement of the various state medical societies on the practice of law in the matter of defense of their members against malpractice. I mention that because you will probably see some publicity in the American Medical Association *Journal* and probably in our State Society *JOURNAL*. Upon the advice of a very excellent attorney in this state, I can see that no criticism or involvement on the part of our Society is possible. We stand in the position of an individual. The Society is incorporated. We do not pay an annual salary to a lawyer, and we do not enter into any agreement with regard to a stipulated fee. The Society stands as an individual in relation to the attorney. The attorney is employed for each individual case and is paid on the merits of his work in that individual case.

So, if you see anything in the *JOURNAL* with respect to this matter, you need not be alarmed. The fact of the matter is it would be as ridiculous to attack our method of defense as it would be to say that an individual should not pay a premium for liability insurance in driving his car.

I move the adoption of the report.

The motion was put to a vote and carried.

President Sawyer: The report of the Committee on Necrology, Dr. C. W. Ellyson, Secretary.

REPORT OF THE COMMITTEE ON NECROLOGY

With the passing of the year 1936, forty members of our professional organization have left our ranks, never to appear again. Their death has made a definite break in their large circle of friends and colleagues and is a real loss to the Iowa State Medical Society.

The youngest of these deceased members was only thirty-eight years of age; the oldest was eighty-four. Eleven were sixty years of age or younger; four were fifty years old or less.

May we rise and pay a moment's silent tribute to our departed colleagues and then remain standing while their names are read?

Felix A. Hennessy, Chairman
C. W. Ellyson, Secretary

Name	Town	Age	Date of Death	Cause
Avery, Harold LeRoy.....	Pasadena, Calif.....	56	Dec. 6, 1936	
Barber, Francis Adams.....	Clear Lake.....	70	Nov. 4, 1936	
Beye, Howard Lombard.....	Iowa City.....	50	Sept. 29, 1936	Automobile accident
Birney, Erasmus Edward.....	Nora Springs.....	80	Nov. 5, 1936	Cerebral hemorrhage
Blum, David Mitchell.....	Des Moines.....	38	Dec. 13, 1936	Heart
Braden, Austin Lynn.....	Wellman.....	66	June 22, 1936	Heart
Braunlich, Henry.....	Davenport.....	76	Aug. 10, 1936	
Bryan, Arthur Lynn.....	Muscatine.....	50	Nov. 12, 1936	Heart
Cadwallader, Joseph Maxwell.....	Sheffield.....	52	May 23, 1936	Accidental
Coldren, Cassius Mentor.....	Milford.....	75	May 10, 1936	
Edwards, James Archibald.....	Oakdale.....	61	Oct. 5, 1936	Heart
Farrell, Vincent A.....	Mason City.....	60	April 6, 1936	Embolism of pulmonary artery
Feeney, Francis Sylvester.....	New Hampton.....	60	Jan. 18, 1936	Heart
Gibson, Charles Gordon.....	Sioux City.....	68	Sept. 26, 1936	Heart
Glann, Arthur Gerald.....	Colo.....	61	Nov. 17, 1936	Carcinoma
Gorman, Thomas Conner.....	Cedar Rapids.....	62	Jan. 24, 1936	Cerebral hemorrhage
Gratiot, Harvey Bradley.....	Dubuque.....	62	Jan. 13, 1936	Pneumonia
Green, William Henry.....	Bridgewater.....	62	Feb. 10, 1936	Osteomyelitis
Hadsel, Henry S.....	Oxford, Ohio.....	84	Oct. 6, 1936	
Haecker, Lewis Edward.....	Hampton.....	73	April 18, 1936	Heart
Hayden, Arthur Sumner.....	Wall Lake.....	63	Jan. 25, 1936	Pneumonia
Hough, Frank Sherman.....	Sibley.....	72	Dec. 3, 1936	Diabetes
Jappe, Christian Frederick.....	Davenport.....	76	Feb. 3, 1936	Heart
Long, Walter Klingeman.....	Hampton.....	60	April 3, 1936	Pneumonia
Mills, Daniel Guy.....	McCallsburg.....	75	Jan. 28, 1936	Carcinoma
Mogridge, George.....	Glenwood.....	80	July 22, 1936	Heart
Murphy, Frank J.....	Sioux City.....	71	Dec. 23, 1936	Carcinoma
Olson, Oscar Evald.....	Red Oak.....	44	May 5, 1936	Scarlet fever
Osincup, Frank A.....	Waverly.....	73	Jan. 31, 1936	Heart
Palmquist, Nathaniel.....	Smithland.....	58	Dec. 26, 1936	Coronary occlusion
Peters, Warren T.....	Burt.....	66	Aug. 3, 1936	Heart
Pitcher, Jonathan Jay.....	Mount Pleasant.....	54	Oct. 22, 1936	Cerebral hemorrhage
Riordan, James Cook.....	Pocahontas.....	68	Feb. 7, 1936	Heart
Stirlen, William Wadsworth.....	Muscatine.....	55	June 9, 1936	Septic Endocarditis
Stoner, Alva Porter.....	Des Moines.....	68	May 31, 1936	Pneumonia
Tallman, Cameron C.....	Fairfield.....	61	July 31, 1936	Hypertension
Titzell, Frank Conquelson.....	Iowa City.....	73	Oct. 18, 1936	Cancer
Townsend, Daniel John.....	Lohrville.....	79	Mar. 27, 1936	Heart
Townsend, Smith James.....	Gilmore City.....	67	Mar. 5, 1936	Uremia
Williams, James Albert.....	Belle Plaine.....	70	Mar. 26, 1936	Pneumonia and Heart

Dr. Ellyson: Mr. Chairman, I wish to *move* that this report be accepted as printed.

President Sawyer: It has been *moved* and seconded that the report of the Committee on Necrology for the year 1936, from January 1 to December 31, be accepted. I will ask the Secretary to please read these names, and while they are being read, will everybody please stand!

The audience stood in silent tribute as Secretary Parker read the names of the deceased members.

Dr. Harman: May I say that Dr. C. E. Busby of Brooklyn has been omitted from this list. He passed away three weeks ago.

President Sawyer: This report is from January 1 to December 31, 1936. Report of the Publication Committee.

REPORT OF THE PUBLICATION COMMITTEE

The Publication Committee feels that the twelve monthly issues of the Journal reflect the activity of this Committee, and in themselves constitute a report of its stewardship. We have continued in our endeavor to maintain a high standard of scientific effort in the articles employed in the Journal, having in mind the selection of those which, in our opinion, would prove most useful to the readers of our pub-

lication. We have continued to invite case reports from our State University's Medical Department, as well as reports from organized hospital groups. These case reports, we feel, should create a renewed interest in the new methods of diagnosis, and in the recognition of the more unusual diseases encountered in an Iowa practice. We have continued in our endeavor to make the Journal an efficient house organ for our State Society, and have encouraged its use by the several officers and committees in reporting their activity and projects to the membership of the Society.

We wish to express our sincere appreciation for the cooperation which we have enjoyed from many sources during the current year, citing particularly the officers of the Society who have so generously supported us in our efforts and to those members who have, through the submission of papers or suggestions, aided us in elevating the standard of our publication.

R. R. Simmons, Chairman

With the change in editorship of the Journal at the beginning of 1937, the present Editor automatically became chairman of the Publication Committee. In the few months we have served in this capacity, we have acquired little to add to what has already been said by our predecessor, Dr. Simmons, in

his report. We can only say that it will be our endeavor to maintain the high standard of the articles appearing in the Journal set by the Committee of which he was chairman for so many years.

We have been particularly favorably impressed by the number of well prepared scientific communications received for publication from authors within our own state. The pages of the Journal will always be found available for such articles. Poorly prepared articles will be refused, because publication of them is not only injurious to the author but is a waste of the time of our readers. It is our hope and our aim that we may keep the standard of published papers on such a high level of quality that the members of our State Society will be stimulated to greater efforts in their writings and that publication of an article in the Journal will be looked upon as an achievement of worth. Thus, may the standard of medical practice in Iowa ever be on an upward plane!

While expressing our hope and visions for the future, we might say that the thought of making the Journal of increasing service to our membership is being kept in mind constantly. We are aware of the importance the many phases of medical economics have come to occupy in medical thought in recent months and we are hopeful that, for the information of our readers, collaboration with the Medical Economics Committee may make possible the establishment of a separate section in the Journal or at least special articles devoted to the more important questions on this subject. Other plans of a minor nature are being considered but none has matured sufficiently to be announced at this time.

We invite the suggestions and criticisms of the House of Delegates to the end that all of us may unite in our efforts to build a better Journal and a better medical profession.

Lee Forrest Hill, Chairman

Dr. Hill: I move the adoption of the report of the Publication Committee as printed in the Handbook.

The motion was put to a vote and carried.

President Sawyer: Report of the Committee on Public Policy and Legislation, Dr. Moore, Chairman.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Your Committee on Public Policy and Legislation expresses its appreciation of the splendid support which it has had from the officers and members of this Society. The officers on all occasions have been sympathetic counselors and generous in their support of the committee's activities. The membership at large has been responsive to the requests of the committee. Without this, there would be little or no progress.

Basic Science Board

You will be interested, of course, in knowing the development and progress of the Basic Science Board,

which was established by statute as of July 5, 1935. At the time of our last annual session, the Board was confronted with a temporary injunction which prohibited the issuance of any certificates except by examination. This originated with the colleges in Iowa which are not members of the North Central Association of Secondary Schools and Colleges. The petition for the injunction was based on the amendment to the original bill, exempting students of colleges of that organization from examination by the Basic Science Board. The amendment was not one which we sought or wanted. It was accepted, however, without opposition. The injunction has been modified since our last report so that the Board may grant exemption through reciprocity. That part of the law referred to above is still under injunction and this is apparently satisfactory to all concerned.

The original bill was amended so that students enrolled in the schools of the healing arts in Iowa, as of July 1, 1936, were exempt from the requirements of the Basic Science Board. Therefore, the Board has not yet come into full function. Table I shows the number and kinds of certificates granted by the Board up to April 1, 1937.

TABLE I

Certificates by Exemption.....	72
Certificates by Exemption and Registration	2219
Certificates by Reciprocity.....	32
Certificates by Examination.....	18

Table II indicates the number of certificates by exemption and registration granted to M.D.'s, D.O.'s, and D.C.'s.

TABLE II

Total Number of Certificates of Exemption and Registration granted by the Basic Science Board.....	2219
Number of such certificates issued to medical doctors.....	1842
Number of such certificates issued to osteopaths	176
Number of such certificates issued to chiropractors	201

Table III gives a break down of the group certified by examination by the Basic Science Board. This was obtained by checking the list of those certified by the Basic Science Board against the lists of those licensed by the several licensing Boards.

TABLE III

Total Number of Individuals granted Certificates by Examination by the Basic Science Board.....	18
Number licensed by State Board of Medical Examiners	6
Number licensed by State Board of Osteopathic Examiners	0
Number licensed by State Board of Chiropractic Examiners	2

The other ten individuals have not yet sought a license to practice the healing arts in Iowa.

Three appointments to the Basic Science Board have been made since January 1, 1937, one because of the resignation of a member and two because of terms expiring as of July 5, 1937. R. E. O'Brian of Sioux City, tendered his resignation as a member of the Board when he became Secretary of State. His successor is G. W. Heitkamp, professor of Physics and Geology, Columbia College, Dubuque, Iowa. The terms of J. H. Bodine and Charles H. Carter expire July 5, 1937. They have been reappointed and confirmed. The term for which they were appointed is six years.

Interprofessional Activities

Following favorable action concerning the formation of an Iowa Interprofessional Association by the state conventions of the five interested groups—the Iowa Pharmaceutical Association, the Iowa Veterinarian Medical Association, the Iowa State Dental Society, the Iowa State Association of Registered Nurses and the Iowa State Medical Society—a committee of three representatives of each professional group met in Des Moines on September 13, 1936, and formally organized the Iowa Interprofessional Association. One member from each profession was selected to membership in the Executive Council of the new Association and the Executive Council in turn elected the following state officers: R. D. Bernard, M.D., President; J. D. Marion, D.D.S., Vice President; Mr. Walter F. Meads, Secretary.

This organization represents a cross-section of opinion of these five professional groups. The constitution published in the report of this committee last year, was adopted. It is broad in its scope and binds the professions loosely together.

It has taken the greater part of the last six months to arrange suitable groups in each county preliminary to the organization of county units of the State Interprofessional Association. A model constitution has been offered to these local units and where the county was apparently too small to support an individual unit, two or three counties have been grouped.

No effort has been made to change the organization of interprofessional units which had previously been established. The response which has been experienced in regard to the formation of these smaller interprofessional units has been satisfactory.

Present Legislative Session

During the present session of the legislature, your committee has attempted to keep the membership of this Society informed regarding our legislative interests through the medium of bulletins, in addition to many personal letters. These bulletins have been of two varieties; one was distributed to the officers of the State Society and to officers of the county societies only. Obviously, the officers of the county societies were expected to convey to the membership of their several societies the information contained in these bulletins. The other type of bulletin has been sent to the full membership of the State Society.

We have many reasons to believe that these bulletins have met with the approval of the members and officers of the county societies. We also have evidence that there has been much appropriate and helpful action by members of the county societies in response to requests expressed in these bulletins.

Your committee is pleased to report that no adverse legislation has been passed in this session of the legislature. The Chiropractic bills, Senate File 59 and House File 188, proposed to substitute legal enactment in lieu of educational qualifications for unrestricted practice of medicine. They were defeated in the public health committees of both the Senate and the House of Representatives. As usual, these bills were cleverly drawn and attracted a good deal of interest from legislators. They would have lowered immeasurably the standards of the healing arts in Iowa and would have repealed the Basic Science Law.

Your committee is pleased to report adoption of an amendment to the Workmen's Compensation Act (Senate File 24 and House File 117), which raises the liability of an employer for personal injuries from \$300.00 to \$600.00. The Workmen's Compensation Law was enacted in 1913. At that time \$100.00 was provided as a maximum total compensation for doctors, nurses and hospitals. Obviously this was grossly insufficient and efforts were made to extend this through the years and in 1929 the ceiling was raised to \$300.00. We are advised by those in close touch with the Industrial Commission that there were many instances of injuries in which \$300.00 was woefully inadequate to cover expenses. We are advised by the same source that this ceiling of \$600.00 will take care of 99½ per cent of the cases. This bill was introduced by the Iowa Hospital Association. Your committee has worked in close cooperation with representatives of that organization and has given every possible assistance to attain the passage of this bill. Naturally it will require some increase in insurance rates. Under these circumstances it was opposed by many insurance companies and large employers of labor.

Your committee has also given assistance to obtaining passage of House File 365 and Senate File 292. This bill gives the Board of Supervisors of Polk County unquestioned and clear authority to contract for medical and dental services. This power was taken from the Board of Supervisors of Polk County only in 1927, by an act consolidating the city and county hospital. At the time of writing this report, the bill has been passed by the House with two dissenting votes. It has yet to be considered by the Senate.

Public Health Policies

In the conduct of its work, the Committee on Public Policy and Legislation has had numerous contacts with the State Department of Health. Frequently members of the Society have sought information from the committee regarding various phases of the program of the Department. During the lat-

ter part of the present session of the state legislature the committee has been consulted by members of the legislature, who wish to know what is the attitude of the State Medical Society toward the proposed program of the State Health Department. They were particularly interested with reference to the establishment of a state hygienic laboratory, free Wassermann service, free distribution of drugs, development of district health units (including the education and appointment of full time public health officers, sanitary engineers and public health nurses), and maternal and child hygiene (with particular reference to refresher courses for physicians in obstetrics and pediatrics, clinics for crippled children, etc.). Last January a group of members of the State Society was requested to meet with the Commissioner of Health and discuss one phase of the public health program—the proposed program for the control of syphilis. This group endorsed the proposed program and the endorsement has been interpreted by some as an endorsement by the State Society. The Legislative Committee held that it could not regard the endorsement of the above group as an official approval of the State Society. The reason for this point of view is that the group referred to was an unofficial committee, appointed in an emergency, without clear understanding as to the nature of their responsibilities. Obviously, this group could not have been given authority to speak for the Iowa State Medical Society. Thus it becomes perfectly clear that the Legislative Committee, while respecting the opinion of this group, could not recognize its opinion or action as a commitment of the State Society.

For these reasons, and to get an expression of the Society regarding the other phases of the public health program as well, the Legislative Committee requested a meeting of official personnel of the State Society for the purpose of discussing the program of the State Health Department. The following officers and committee chairmen were asked to participate in the meeting: President; president elect; trustees, secretary, chairman of the Council; chairman of the Speakers Bureau; chairman of the Committee on Medical Economics and editor of the *Journal*. In addition, Dr. T. A. Burcham and Dr. A. C. Page were invited to attend this meeting. Unfortunately, it was impossible for the president-elect, Dr. Myers, John C. Parsons, trustee, Robert L. Parker, secretary, and T. F. Thornton, chairman of the Committee on Medical Economics to be present. Those who were present are as follows: Prince E. Sawyer, Oliver J. Fay, John I. Marker, Felix A. Hennessy, D. J. Glomset, Lee F. Hill, R. D. Bernard, S. W. Corbin, T. A. Burcham, A. C. Page and Fred Moore. In addition to the above group, we were favored by the following official personnel: Walter L. Bierring, Commissioner of Health, Senator John W. Billingsley of Newton and Representative E. A. Moore of Harlan.

In this meeting Dr. Bierring presented the program for which he asked appropriations of the present

General Assembly. In addition to the routine work of the Department, Dr. Bierring placed major emphasis on:

1. The proposed plans for a State Hygienic Laboratory.
2. Proposed plan for syphilis control.
3. Continued development of district health units along the lines of those already started in north-western Iowa.
4. Continuation of the activities of the Bureau of Maternal and Child Health.

Several hours of discussion were devoted to these major topics. In accordance with proposed plans, the state hygienic laboratory would be established under the direction of the State Board of Health and would assume the duties heretofore performed by the hygienic laboratory at Iowa City. This plan also included free Wassermann service without reference to the economic condition of the patients.

The proposed plan for the control of syphilis provided for free distribution of drugs by the State Health Department for treatment of patients regardless of economic status.

The plan for district health units provided for consolidation of four or more counties for the purpose of developing a program of public health in such areas. The proposed personnel for these district units included a full time public health officer (a medical man trained in public health work), a district public health engineer, a public health nurse in each county and a clerk-stenographer.

The program for the Bureau of Maternal and Child Health would be continued with special emphasis on the refresher courses for physicians, such as have recently been offered at Panora, Denison, Red Oak, Osceola, Centerville and Keokuk.

The discussion dealt with the above named topics. Everyone present stated his opinion frankly. For the information of the commissioner of Health and the members of our Society who are also members of the Legislature, a vote was taken with reference to the several features of the program as outlined above.

In regard to the laboratory, the opinion was unanimous that:

- (a) The State Department of Health should have a laboratory.
- (b) Free Wassermann service should be limited to indigent patients.

With regard to the provision of drugs for the control of syphilis, the opinion was almost unanimous that such distribution should be limited to indigent patients.

In regard to the development of district health units, there was some hesitation about expression of opinion because of insufficient knowledge in regard to the details of such organization (time would not permit development of all of these things in adequate detail). In the light of present knowledge, the prevailing opinion was unfavorable to the development of such units.

In regard to the activities in maternal and child

health, there was greater difference of opinion. Some felt that the refresher courses were excellent activities. Others felt that all such educational work should be done by the State Society.

This group, however, extended its approval of these several activities while under the direction of the present Commissioner of Health.

Throughout all the discussion, the following thoughts were dominant: a fear that with the present Federal encouragement programs may become extravagant, that costs may prove wholly out of line with benefits received, that there will be increasing Federal supervision of and encroachment on the private practitioner's activities. There was a unanimous feeling that many of these activities might be carried out without objection while under the direction of the present Commissioner of Health, Walter L. Bierring. There was a unanimous feeling, too, that under the direction of other personnel, many of these activities might become meddlesome, obnoxious and unduly expensive.

It now becomes perfectly obvious that two highly respected groups of this Society have considered the same questions and arrived at rather different conclusions. In the absence of specified authority having been delegated to any group for commitment of the State Society to any definite policy, the Legislative Committee still entertains considerable doubt as to what is the attitude of the Iowa State Medical Society on some of these questions. This Committee wishes that the whole membership of the Iowa State Medical Society could have heard the discussion on these subjects by both groups. The specific program of the State Department of Health will be determined in large measure by the appropriation of the state legislature. In this we have no part, but the Legislative Committee can state very definitely that the State Medical Society wishes to see a progressive public health program carried out; a program which will yield desirable benefits to the people and at the same time protect the standards of the private practice of medicine. As a result of these discussions, this committee believes that it is highly desirable that the House of Delegates should designate an official group which would be clothed with authority to formulate and express the policies of the Iowa State Medical Society in the interim between meetings of the House of Delegates.

Fred Moore, Chairman.
R. D. Bernard.
S. W. Corbin.

Dr. Fred Moore: Mr. President, if it is proper and in order, I should like to move the acceptance of the report and then make some informal comments in regard to legislative matters. I *move* the acceptance of the report.

The motion was put to a vote and carried.

Dr. Moore: In legislative matters it is obvious to everyone that we are dependent upon a great many people for support. We are dependent upon the good will of many people. In that connection, I want to express the appreciation of the Committee

to the members of this Society and the officers of the county medical societies for their response to the many requests that the Committee has made of them.

I want to call attention to the members of this Society who have been members of the recent state legislature. We are fortunate in having had eight members of this Society as members of the legislature during this past session. In the Senate were Dr. Billingsley of Newton, Dr. Moore of Walnut, Dr. Smith of Clarksville, and Dr. Schadt of Williamsburg. In the House there were Dr. Moore of Shelby County, Dr. Garner of Linn County, Dr. Keeney of Palo Alto County, and Dr. Kerr of Fremont County.

I think it will be of interest to you to know something about the basic science legislation in other states. The California State Medical Society last year earmarked \$35,000 of their funds for the promotion of a basic science bill. As yet, it has not come before their legislature, because of some technicality in regard to special elections. I mention it merely to call your attention to the fact that whenever they start these campaigns for basic science bills, they meet a lot of opposition. They expect it there and are preparing for it.

At the present time, in the state of Michigan, there is a basic science bill before the legislature which has aroused an extremely bitter fight. It has passed the House, according to the newspaper reports. The House of Representatives in Michigan was put upon call and kept in continuous session from the middle of the afternoon until midnight, trying to get a vote on the basic science bill. They finally passed it in the House, and it is now in the judiciary committee of the Senate in Michigan.

A basic science bill was introduced in the Georgia legislature this last session and was defeated. The primary reason which has been offered for its defeat was that the cults who opposed it had too much money to spend.

A basic science bill was introduced into the Kansas legislature. I am sorry I do not know its exact fate at the present time. We were unable to get complete information. The best information at hand is that it is not in a favorable situation. I mention these things particularly because I want to emphasize why the basic science bill passed our own state legislature two years ago. The reason it was passed was because the groundwork was done so well in every county society in the state. Whatever influence we have, must come essentially from our professional members in the various county societies.

One of the most threatening bills before the last legislature was the physical therapy bill which was promoted by the chiropractors. Undoubtedly that bill will be introduced again.

I should like to emphasize, Mr. President, the necessity of continued activity by the members of this Society in the selection and election of candidates for the state legislature.

I should like to ask your permission at this moment, Mr. President, to have Representative E. A. Moore from Shelby County give this House of Delegates a

statement in regard to that very question. He can do it much more effectively than I. He can do it from the standpoint of practical, political attainment in a House of Representatives and from the viewpoint of the medical profession. I ask your permission to have him speak.

President Sawyer: If there are no objections, we will hear from Dr. Moore of Shelby County.

Dr. E. A. Moore: Mr. President and members of the House of Delegates: I don't know that I can say anything more or put any more emphasis on what Fred has told you about the importance of the selection of candidates for the next assembly and the election of candidates you are sure will be favorable toward proper legislation.

Regardless of partisan politics, I think you men would do well quietly to investigate and get your candidates to promise themselves, even before the primaries, because the groundwork is better laid before the legislature meets than it is afterward.

So I would beg of you, not only in regard to medical legislation but for legislation pertaining to the general welfare of the state, choose wisely in your selection of men who will represent you in the next session of the assembly in Iowa in 1939.

President Sawyer: Dr. Moore, on the part of the House of Delegates, I want to thank you for your explanation.

Dr. Fred Moore: Mr. President, we have been very well represented in the legislature by W. J. O'Brien of Des Moines. I saw him the day before yesterday and in reviewing some of the experiences of the last three months, he urged that I convey to the members of this Society at this time the necessity of doing the very things which have just been emphasized, the necessity of having good candidates for the legislature.

Then he emphasized, also, his belief that the field of physical therapy offers a wonderful opportunity to the cults for favorable consideration in legislative matters. That is his impression. He has followed legislative matters for a long time and knows the reactions of men in the legislature.

Mr. President and Members of the House: One of the very first principles in getting anything done in a legislative manner is to get somebody else to do your talking and do the work for you. I would like at this point to have you call on Dr. Bernard, a member of our Committee, who has been chosen President of the Interprofessional Association. I am sure that Dr. Bernard can give us some very pertinent information in that respect.

President Sawyer: Dr. Bernard, will you please explain this situation to us?

Dr. R. D. Bernard: Mr. Chairman and members of the House of Delegates: Three years ago, when this present Committee was appointed, we were told to deliver the goods. Dr. Moore conceived the idea that we could not do it alone, and you know the results of our one-night stands throughout the state until enough sentiment was developed in the personnel of the State Society to give us the proper back-

ing. You also know, I am sure, that the results we attained were largely due to your cooperation.

As we had meetings in various counties, we found that the other professional groups were very helpful. We found groups that were already organized, and which accomplished a lot in a legislative way. We found these men were willing to back us up provided we would reciprocate.

During the two or three years which followed, various state organizations were sold upon this interprofessional theory. These several societies, the Iowa Pharmaceutical Association, the Iowa State Dental Society, the Iowa Veterinary Medical Association, the Iowa State Association of Registered Nurses and the Iowa State Medical Society instructed their legislative committees to develop a state interprofessional organization. This bore fruit last September, and the state organization was perfected. Mr. Walter Meads, of the Pharmacy Board, was elected secretary.

We spent until January 15 trying to locate groups in each county. Do I make it clear that we had a state organization first, and then tried to pick up smaller, individual units? The idea of this organization was not to be allied closely or to make it supersede or overshadow any of the five component organizations. It is rather a quiet organization that unites the five groups behind the scenes and keeps them working together harmoniously to solve the problems which are pertinent to the five organizations.

In January we took a canvass of the state. It was not very satisfactory. Our replies were few. We thought perhaps it was due to the fact that it was the busy season of the medical men. We have just completed a second survey. You will be interested in the results, I am sure.

During the campaign two years ago, eighteen counties organized interprofessional organizations. Since we started in January we have succeeded in organizing eleven new ones. In the ninety-nine counties, we find that the four professional groups, aside from the medical fraternity, are favorable and anxious to organize. In other words, we have sold these four groups to the point where they are ready to go ahead, but we find that the medical groups in nineteen counties haven't taken the trouble to answer. We find that twenty-three counties have given us no answer whatever. We find that four counties are not very enthusiastic. The set-up has reversed itself. The medical profession is now lagging behind the other four groups. In some counties the other professions are anxious to organize without the doctors, if the doctors do not take more interest than they have. That would give you the impression that the doctors are not interested, that they are not giving us support. I want to change that impression immediately. The reason that we do not have these replies is because the men are busy. They feel that it is perhaps not necessary at the present time to push the interprofessional organization. There is no antagonism. It is rather a feeling they had three

or four years ago, "Let the other fellow do it. We are getting along beautifully. The legislative committee has accomplished something. Just let the thing ride."

Dr. Moore told you the benefits of preparing early. He told you that we could accomplish nothing without your help. Dr. E. A. Moore has told you why we need that help. I feel that with this explanation the individuals who have not answered our inquiries regarding interprofessional organization will probably be more interested.

As an illustration, we had heard nothing from Jasper County, and yet one of the doctors from there told me today that they are ready to go, but neglected writing. We are just asking you to remember that such organization is one more step in the legislative program which two years from now will bear fruit.

We were honored this afternoon with the presence of Mr. George Judisch. I don't know whether he is present or not. If he is, I would appreciate it very

much if you would introduce him. He is the father of the interprofessional movement in Iowa, a druggist in Ames, Iowa. Mr. Walter Meads, Secretary of the Association, was also present.

President Sawyer: Is Mr. George Judisch in the house? (Absent). Is Walter Meads here? (Absent).

Dr. E. A. Moore: I want to say one more word in emphasis of what I said before. I am positive there will be legislation of importance to our profession coming before the next assembly. I don't know whether I will be there or not, but I can't make it too emphatic that you should have the right men as members of that assembly in order to look after the medical interests as well as other interests. I just can't make that point too strong, because I know there will be plenty of activity.

President Sawyer: The next order of business is the reports of Special Committees; the report of the Baldrige Memorial Prize Committee. L. C. Kern, Chairman.

Reports of Special Committees

REPORT OF THE BALDRIDGE MEMORIAL PRIZE COMMITTEE

The Committee held one meeting at Marshalltown to rewrite the rules governing the awarding of this prize. This was done at the suggestion of the Dean of the College of Medicine.

The following rules were unanimously adopted by the Committee:

1. The award shall be known as the Baldrige Memorial Prize.
2. The prize will consist of \$100.00 in cash to be given yearly by the Iowa State Medical Society.
3. Any medical student of the State University of Iowa, who is a resident of Iowa, is eligible for the competition.
4. The prize shall be awarded for original work in medicine. This is interpreted to include both preclinical and clinical subjects. The work must be done in the College of Medicine of the University of Iowa.
5. Theses which are to be presented for this competition must be in the office of the Dean of the College of Medicine on or before March 15. The eligibility of each applicant shall be certified by the Dean of the College of Medicine of the State University of Iowa to the Baldrige Memorial Committee. Only one thesis may be submitted by the same student in any year.
6. Theses must be typewritten in triplicate (double-spaced) on one side of the paper and must be submitted under a nom-de-plume which must appear on each page of the thesis and on the outside of a sealed envelope, which contains the true name, and the class of the competitor.
7. Announcement of the prize winner will be made during the annual meeting of the Iowa State

Medical Society and the award will be presented at the regular Commencement exercises of the State University of Iowa.

8. If no thesis is deemed worthy, no award will be made. If two theses of equal excellence are presented, the prize shall be divided.
9. The three judges are to be appointed by the President of the Iowa State Medical Society.
10. The winning thesis shall become the property of the College of Medicine of the State University of Iowa and will be published in the Journal of the Iowa State Medical Society. The College of Medicine of the State University of Iowa reserves the right to publish any thesis submitted. A copy of each thesis shall remain on file in the Archives of the College of Medicine. Any thesis which has not been published by the College of Medicine of the University of Iowa within one year after the awarding of the prize for which the thesis was submitted may be published by the writer of the thesis.

It was the opinion of the Committee that the rules fulfil the desire of the Iowa Medical Society to make this very worthy project a fair test for all competitors, and protect the interests of the College in good work.

L. C. Kern, Chairman
B. F. Wolverton
A. D. Woods

Dr. Kern: Mr. President and members of the House of Delegates: In addition to the report as published, I wish to make this announcement, that the Committee was unanimous in awarding the prize to an unknown student. We do not know the name of the student. That is known only to the dean of the College of Medicine. We have so awarded this prize of \$100 for this year.

I *move* that this report be accepted.

There is just one other thing I had in mind. Since this Committee was formed and named the Baldrige Memorial Committee, we have had another professor from the university who has sacrificed his life for the good of our profession. It seems only fitting that his name should in some way be made a part of the name of this Committee, and to call it the Baldrige-Beye Memorial Committee, or something of that kind. I just make that as a suggestion for later consideration.

President Sawyer: Do I hear a second to the motion to accept the report?

The motion was put to a vote and carried.

President Sawyer: Report of the Committee on Child Health and Protection, Dr. McBride, Chairman. (Absent).

REPORT OF COMMITTEE ON CHILD HEALTH AND PROTECTION

The Committee on Child Health and Protection of the Iowa State Medical Society met at the Hotel Savary at Des Moines, on April 30, 1936.

The program of the State Department of Health, as developed under the provisions of the Social Security Act, was discussed. The program at that time, as outlined by the State Department of Health, consisted of a demonstration maternity program in a single county. In addition to this an immunization program against diphtheria was to be carried out in twenty-nine counties. It was brought out in the discussion that it was not possible under the regulations of the Social Security Act to pay the physicians a set fee for each immunization, but that they must be compensated on an hourly basis, or a regular salary. This program was accepted in all but one of the counties contacted by the State Department of Health.

The matter of the advisability of the routine use of iodine in school children was discussed. It was recommended that the State Department of Health apply to the United States Public Health Service for a survey on adolescent goiter in Iowa.

A second meeting of the Committee was held at the Hotel Fort Des Moines on Monday, May 25, 1936, in Des Moines. The purpose of the meeting was to discuss pamphlets on the subject of hygiene prepared by the State Department of Health and to be supplied to the teachers of rural schools. The pamphlets were reviewed and suggestions made regarding desirable changes.

The immunization program against diphtheria was discussed again with Dr. Kinnaman. It was recommended by the Committee that this program be carried out as a strictly educational program and that the educational features be stressed throughout. It was also pointed out that it should be clearly understood that this was not a permanent activity of the State Department of Health, the program not to exceed a five year period. Dr. Hill was asked to pre-

pare an article to be printed in an early issue of the Iowa State Medical Journal on the matter.

The matter of child health contests in connection with county fairs was discussed. It was the consensus of opinion that these contests were of little value to the patient, were time consuming for the physician, and should not be encouraged. On the other hand, the Committee felt that child health clinics conducted by the local physician of a community, either with or without a consultant being present, were worthwhile. These clinics are believed to have a definite educational value.

The program for the 1937 annual meeting of the State Society was discussed and certain recommendations were made to the President regarding the pediatric and obstetric sections of the program.

The "refresher" courses being given by the Speakers Bureau were discussed. It was recommended by the Committee that not only the instructors from the University be used as lecturers on these courses, but the practicing obstetricians and pediatricians of the state as well.

Dr. E. D. Plass, of the University of Iowa has instituted a statistical study of home delivery versus hospital delivery. This is being carried out through the cooperation of men doing obstetrical work throughout the state.

The material for the motherhood classes being conducted by the State Department of Health was reviewed and these courses are now in operation.

Dr. Hill attended a meeting at Iowa City for the purpose of helping outline the pediatric phase of the crippled children service under the Social Security Act.

R. H. McBride, Chairman

Dr. Hill: In Dr. McBride's absence, I *move* that this report be accepted.

The motion was put to a vote and carried.

President Sawyer: Report of the Historical Committee, Dr. Bierring, Chairman.

REPORT OF THE HISTORICAL COMMITTEE

The activities of the Committee during the past year have been concerned largely with the publication of historical data connected with the development of medical practice in the different counties and sections of the state.

The history of Drake University Medical School by Dr. Ferdinand J. Smith of Milford, has been completed. To this has been added the several interesting articles on the transition from the Franklin Medical School to the Keokuk College of Medicine of the State University of Iowa.

Several chapters of "A Medical History of Winnebago County" by Dr. Harry French Thompson of Forest City have appeared. This article presents many interesting historical facts. The history of the Austin-Flint Cedar Valley Medical Society has been presented in a most interesting manner by Dr. W. E. Long of Mason City, Iowa. The medical history of

Ida County by Dr. G. C. Moorehead of Ida Grove forms an interesting article.

The historical sketch of medicine in Dubuque by Dr. Henry Langworthy of Dubuque, is being published in four parts. These articles are of distinct literary value and present a rare knowledge of the historical sequence of events in that section where Iowa state history had its beginning.

The Committee again desires to express the opinion that the time has arrived to collect and prepare for publication in book form the historical data published in the Journal during the past five years. This should be done either as a supplement to the volume on The History of Medicine in Iowa, so ably edited and published under the direction of the late Dr. D. S. Fairchild, or by incorporating the same in a separate publication with the more recent material collected.

In order to begin the publication as outlined, the committee makes the further request that the Board of Trustees of the Iowa State Medical Society appropriate the sum of \$300 for this purpose.

Respectfully submitted,

Walter L. Bierring, Chairman
Frank M. Fuller
John T. McClintock
Tom B. Throckmorton
William Jepson
R. T. Lenaghan

Dr. Bierring: Mr. Chairman, I *move* that the report of the Committee as published in the Handbook be accepted.

The motion was put to a vote and carried.

President Sawyer: Report of the Medical Library Committee, Dr. Jeannette Dean-Throckmorton, Librarian.

REPORT OF THE MEDICAL LIBRARY COMMITTEE

Medical Department, Iowa State Library
July 1, 1935 to June 30, 1936

Requests for literature.....	2,839
Pieces of literature loaned.....	11,105
Letters written.....	1,311
Cards written.....	1,523
Visitors in the Library.....	1,976
Telephone calls coming in (Long Distance 3)..	660
Periodicals received by subscription regularly..	140
Periodicals received as gifts regularly.....	55
Number of volumes in the Library.....	19,122
(Of this number, 595 were added since June 30, 1935)	

Gifts to the Library (including books, periodicals, reprints).....	17,690
Gifts to Library Museum Exhibits (6 donors) ..	8
Jeannette Dean-Throckmorton, Librarian Iowa State Medical Library Con R. Harken, Committee Chairman	

Dr. Jeannette Dean-Throckmorton: Mr. President and members of the House of Delegates: The Iowa State Medical Library passed through a hazardous time during this past session of the legislature. The suggestion was made that the medical library in Des

Moines be sent to Iowa City, there to be combined with that of the University. The University library neither wanted us nor had room for us, nor did we want to go. Time was very short for action. I wrote all the doctors who had used the library during the past year, and the executive secretary of the State Society got busy by long distance telephone and telegraph. The Legislative Committee, the Medical Library Committee, and several individual physicians brought pressure to bear promptly upon the right people. The result was that this movement was dropped, and the medical library remains in Des Moines where it is central for you to come in. This medical library is very different from the University library. It is a mailing library and a research library. If you have a paper to write and will let me know your subject, I will send you the latest books and journals the same day your letter comes in. If you have a rare case about which you wish to read, I should be very glad to hunt up literature on all similar cases. If you wish to read the foreign literature, I shall be very glad to make you a typed list of references, including all the foreign articles, so that we may check against it. We mail journals to doctors regularly. All this medical library service is something that I feel you doctors should have and deserve. It would work a hardship on you and an injustice if you had to do without the medical library service. I welcome this opportunity to thank you publicly for your splendid and efficient help in keeping the medical library in Des Moines.

On page 53 of the Handbook you will note the report of the Medical Library Committee. The first item states that 2,839 letters came in asking for literature. Under the item "Gifts to the Library," you will note "books, unbound Journals and reprints, 17,690 pieces." If you doctors are going to support the medical library so generously and so willingly, you deserve the very best possible service in return.

Please take my thanks to yourself personally, and will you please take my appreciation and my gratitude to your county societies.

Upon motion regularly made, the report of the Medical Library Committee was adopted.

President Sawyer: Thank you very much for that very nice report. Report of the Committee on Military Affairs, Dr. Spilman, Chairman.

REPORT OF THE COMMITTEE ON MILITARY AFFAIRS

To the Officers of the Iowa State Medical Society, and the Members of the House of Delegates:

Twenty years ago the United States entered the World War; at this time a slogan was coined and widely used, a war "To Make the World Safe for Democracy." Today the situation in Europe is much more tense than in 1914; the League of Nations has failed in its mission, and efforts looking toward a limitation of armaments have failed.

We, as a nation, must have a definite military program to protect ourselves in time of need. The medi-

cal profession has a definite part in that program.

Your Committee urges renewed and continued interest in affairs of the Officers Reserve Corps on the part of the medical profession of Iowa.

H. A. Spilman, Chairman

Dr. Spilman: I *move* the adoption of the report as printed in the Handbook.

The motion was put to a vote and carried.

President Sawyer: Report of the Committee on Scientific Exhibits, Dr. McNamara, Chairman.

REPORT OF COMMITTEE ON SCIENTIFIC EXHIBITS

At the eighty-fifth annual session there were forty scientific exhibits illustrating clinical and research studies being carried on in Iowa. The attendance and interest shown in these displays were very gratifying to the individual exhibitors as well as to the Committee.

This year we have arranged similar exhibits and all phases of modern diagnostic methods are included as well as some demonstrating therapeutic measures. We are to have the privilege of presenting special exhibits on syphilis and cancer which have been arranged by the American Medical Association and the American Society for the Control of Cancer, respectively. A glance at the program will indicate the broad scope of the exhibits. Each exhibit is worthy of a visit and study by every member in attendance.

The exhibits will be opened to the public for two hours preceding the public meeting to be held on Wednesday evening, May 12. This is an experiment, but we believe it will do much in the way of arousing public interest in scientific medicine.

F. P. McNamara, Chairman

Dr. McNamara: Mr. President, I *move* the adoption of the Committee's report as printed in the Handbook.

The motion was put to a vote and carried.

President Sawyer: Report of the Woman's Auxiliary Advisory Committee, Dr. Johnson, Chairman.

REPORT OF THE WOMAN'S AUXILIARY ADVISORY COMMITTEE

The Woman's Auxiliary Advisory Committee regrets to advise that it has been called upon for no action during the past year nor have any matters been referred to it. Consequently, we have no report to make.

Aldis A. Johnson, Chairman

Dr. Johnson: Mr. President, I recommend for next year, that this committee be in closer touch—that is the members be in closer touch with each other. It should be a committee of two. Two years ago there was a committee of five. This year it was a committee of four, but Dr. Becker and myself were the only ones able to get together. I would suggest that next time a better leader be appointed,

someone who is a better promoter. I believe more could be accomplished with the Auxiliary if such a person were appointed.

President Sawyer: It has been *moved* and seconded that the report of the Woman's Advisory Committee be adopted. Those in favor say "aye"; contrary, the same sign. *It is carried.*

The Committee on Venereal Disease Control, Dr. Harkness, Chairman.

Dr. Gordon F. Harkness: Mr. President and members of the House of Delegates: In January I was notified that I had been made chairman of a State Venereal Disease Control Committee that was to meet and confer with the State Department of Health. The appointment of the Committee was made by President Sawyer, with the approval of the Board of Trustees, expenses being authorized for only one meeting. The personnel of the Committee comprised the following list of members:

Gordon F. Harkness, M.D., Davenport, Chairman
William E. Ash, M.D., Council Bluffs
Francis R. Holbrook, M.D., Des Moines
P. C. Jeans, M.D., Iowa City
Ruben Nomland, M.D., Iowa City
Lawrence E. Pierson, M.D., Sioux City
E. D. Plass, M.D., Iowa City
Herbert W. Rathe, M.D., Waverly
Lee Roy Woodward, M.D., Mason City

As announced in the January issue of our JOURNAL, the purpose of the Committee was to meet in conference with the State Department of Health "to determine the policy and plan to be carried out in Iowa".

Within the last week I was notified that this body expected to receive a report from this Committee which is, as stated in the Handbook "an unofficial emergency committee".

In reporting to you the actions of this Committee, the status of which I am left in doubt, I will have to take personal responsibility for a few preliminary remarks to explain the reasons for this Committee's actions, since there was neither time nor funds available to call any second meeting for concerted action as to a report to this body. This Committee met in conference with the Department of Health in Des Moines on January 17.

1. From my experience in this Society, the Committee, I feel, was fully cognizant of the fact that its actions would be subject to the approval or disapproval of the House of Delegates, which rightly has the supreme power as to policies that the State Society may adopt.

2. A Committee appointed as an emergency committee, however, must assume certain temporary responsibilities and express its opinions or it serves no purpose.

3. As a Committee of the State Medical Society, its prime purpose is to guard the rights of its members, consistent with a sound public health policy.

4. The United States Public Health Service, under the leadership of Surgeon General Parran, has a program of venereal disease control. Public funds

are to be used to educate society and to prevent and cure venereal diseases in this country.

5. The medical profession has accepted the fact that the prevention of certain diseases and the treatment of some may properly be performed through governmental public health departments.

6. The question of venereal diseases, particularly syphilis in certain phases, is certainly a public health problem. This applies not only to the disease in its contagious form but to the dire results that come from inadequate treatment, resulting in large numbers of those who later become public charges.

7. Recognizing the public health factor and the desire to achieve results, your Committee attempted to approve certain policies that would show a willingness of the medical profession to cooperate for the public good, and, at the same time, not jeopardize the rights of the medical profession or the individual physician in the care of those afflicted with syphilis or gonorrhea.

The following points were discussed and unanimously passed by the Committee:

1. Cooperation:

The Committee approved cooperation with the State Department of Health in a venereal disease program, providing such program did not embrace features that might develop into a form of state medicine.

2. Reporting of Cases:

The purpose of reporting cases in such a campaign is for statistical purposes, and to prevent neglect of treatment by proper follow-up work. Reporting by number only leads to duplication and inaccuracy of records. Your Committee approved reporting by initials, date of birth, age and sex of patient. The use of the name of patient and source of infection was approved as optional with the reporting physician.

3. Free Medicines:

Recognizing that the patient able to pay is no more entitled to free medicine than one affected with any other disease, your Committee felt that in disregarding this premise, it was doing so because such a policy would aid in the adequate and complete treatment of many patients who, with a subsidence of symptoms neglect to carry out this treatment to a successful completion. Your Committee approved the free distribution of arsenical and bismuth preparations, the same to be distributed through a local pharmacist if available. A physician's report would be required on the issuing of free medicines.

4. The principle of free laboratory service in the control of venereal disease was approved, with the provision that branch laboratories be established, that the profession have access to the same, and that the branch laboratories be adequately compensated for their serological work. The opportunity to become a branch laboratory should be free to all laboratories that would meet certain standards. (Dr. Bierring is here. He can tell you how far the Department of Health has gone and how far it contemplates going. He can tell you of the funds that will be available,

and how they will be used. He can tell you that the State Legislature appropriated \$40,000 for a state hygienic laboratory. He can also tell you that they earmarked much of that money. Your Committee did not approve free laboratory service except through a central laboratory.)

5. Private Practice and Free Clinics:

The Committee did not approve the establishment of free clinics. The Committee did not approve any plan that would interfere with the physician in the care of his private patients, or would tend to take from him as private patients those able to pay for his services. (Reimbursement of the physician for the care of the indigent in Iowa is properly a concern of the county government.)

6. The successful control of the venereal diseases in the Scandinavian countries, while a simpler problem, has no doubt been effected through the exercise of police power. The reporting of venereal diseases is obligatory by the medical profession by statute. There is not contemplated by the Department of Health the use of police power to enforce this statute, but rather an appeal for voluntary cooperation.

7. Lay Education:

The Committee approved cooperation in an intensive campaign of lay education, the same to be carried out in cooperation with the county medical societies under the supervision of the Speakers Bureau.

Not being a member of the House of Delegates, I can make no recommendation, but I respectfully submit this.

Dr. Boice: Mr. President, I *move* the acceptance and adoption of that report.

President Sawyer: This is a very excellent report, gentlemen. This Committee was appointed as an emergency measure. This Committee did not have the sanction of the House of Delegates. The Committee will die today. It will have to be resurrected by the new President and by the House of Delegates. There has been a motion made and seconded that this report be received and adopted. All those in favor of it please say "aye"; contrary, the same sign. *It is carried.*

Dr. Bierring, I know we would like to have you enlighten us a little bit.

Dr. Bierring: Mr. Chairman, this last legislature made provision for a state hygienic laboratory of the State Department of Health, to be operated at Iowa City. There was a certain earmarking of salaries which made it difficult of operation. A recent opinion of the Attorney General provides for revision of this allocation of salaries, so that it will become operable. Therefore, we may now say that we have a State Department of Health laboratory for the examination of all infectious cases, diphtheria cultures, typhoid tests, and the various other tests, including serological tests.

If such a laboratory is now a part of the State Department of Health, it is the opinion of the Commissioner that it should be divorced from commercial remuneration or purposes, and that all examinations should be regarded alike, that a diphtheria culture

for diagnosis, or for purpose of release from quarantine, a typhoid-Widal agglutination test for the determination of typhoid, the examination of any stool specimens for the detection of a typhoid carrier, and serological tests are on the same plane. They are made for public health purposes, and, when made for that purpose, there can be no distinction as to economic class. A man of means can be just as much of a menace to public health as the man of indigent means.

In order that there may be opportunity for such as should pay for these diagnostic tests, branch laboratories will be established, possibly ten of them. They will be under the organization of clinical pathologists of the state, or the directors of well known laboratories. It is hoped to standardize the various services, to have some central depot for the production of the antigens that may be required for the Wassermann tests. For the purpose of frequent conferences of these laboratory directors with the director of the state hygienic laboratory at Iowa City, Dr. Barnes, and in order that they may have a part in this program, it is proposed that they be placed on some sort of a part pay salary basis, whether for director, technician or for equipment purposes. That will take away, therefore, from the free examinations at the central laboratory, which otherwise might become very much over-burdened if this general examination is carried out.

The distribution of drugs is a somewhat different matter. Considerable thought has been given to it since the meeting of this Committee on January 17. I think the first thought was of a somewhat liberal provision for such distribution, that it should include all persons, but it is possible that that may give rise to a certain question or criticism. The Commissioner now proposes that it be understood that every infectious case should be provided with sufficient antisyphilitic drug to make it non-infectious.

There is a question as to how that plan can be controlled. It has been the custom in the past to provide five doses. We are considering the providing of ten doses for every case that is reported to the State Department of Health with a positive reaction. After that time, it is felt that continued treatment should be carried on with reference to economic status. The chronic case should, if indigent, be provided with the necessary material but others should pay their druggist's regular fee. The druggists are being taken into this plan in that all requisitions upon druggists are reported to the particular manufacturing pharmacists and they give this druggist ten per cent of the material he has dispensed. The price of this arrangement is seventeen cents a dose which, of course, does not imply much profit for the manufacturer, but the price of the drug in the general trade is not very high, so at no time should it be a particular hardship.

If it means that the white-collared man, whose salary is \$100 a month, and who has three or four children, is unable to get adequate treatment, it does seem, for public health purposes, that it is proper for

funds to be supplied to provide the material that is necessary for adequate treatment.

It is true that the legislature, perhaps, did not appropriate sufficient money for the distribution of drugs, which would cost about \$3 for ten doses a year, per patient. When you estimate 10,000 patients, that would mean \$30,000. It requires \$6 for the complete treatment of twenty doses of both the bismuth and arsenical preparations. By this provision of the state legislature, it is possible to match this \$40,000 with \$40,000 of the United States Public Health Service fund, and in that way, of course, not only can further provision be made for personnel, for follow-up nurses and for allotments to branch laboratories but, likewise, provision for extra drugs.

I know you have in mind that this is just another part of this federal distribution of money. I would like to leave with you this thought, that for many years the State Department of Health has received allotments of funds from the United States Public Health Service, made possible through a statute passed in 1929. The State Department of Health was permitted to receive funds from the United States Public Health Service for local health purposes. These sums have been rather small in the past.

Various appointments have been made in the State Department of Health through these allotments. Now the United States Public Health Service is granted \$8,000,000 by this Congress for the coming year. This is to be divided among forty-eight states, three cents or six cents per capita, which is only twice as much, perhaps, as what the state legislature appropriated for public health purposes here in Iowa.

I direct your attention to the fact that \$8,000,000 is one-half the price of a battleship. Every time a battleship is built, Iowa contributes \$300,000. In conferring with the revenue collector of Iowa, I found that in 1936 we paid \$3,330,000 in individual income taxes and \$5,000,000 of corporate taxes, and that altogether Iowa paid \$14,000,000 in federal taxes last year.

The United States Public Health Service is a part of the federal medical service, just like the Army and Navy. It has been in existence for many years, in charge of a physician, a competent physician, who has been of great help to us in Iowa in typhoid, epidemics of infantile paralysis and undulant fever, and a great help in the St. Louis epidemic of encephalitis a few years ago. They feel that if they are properly to guard states in the transmission of disease from one state to another, it would be perfectly logical for them to allot money to individual states, that they may handle their own health problems a little better. It is on that basis that the Commissioner feels we are justified in accepting this appropriation for local health purposes.

The moneys coming from the United States Public Health Service are deposited with the treasurer of the state, and they are paid out upon special requisition from the Commissioner, on special blanks.

It may not be generally accepted that the United States Public Health Service assures us that when that money is given to a state, that is the end of it,

as far as they are concerned. Their only concern is that the personnel employed be well qualified. They are willing to spend money in training the personnel. They allotted to Iowa a certain sum of money for the training of such personnel as we have here in Iowa, for the various phases of public health work.

I feel that so far I can see nothing in this arrangement that in any way can interfere with the private practice of medicine. It is devoted entirely to preventive medicine and to public health purposes. I can assure you that, while the present Commissioner is in office, it will be controlled in that way.

President Sawyer: Thank you very much, Dr. Biering.

The next order of business is memorials and communications.

Secretary Parker: We have one resolution which I will read and make a motion for its disposition. It is from Decatur County.

"We, the physicians of Decatur County Medical Society, object to physicians who are not members of the county society, holding clinics in the county, which have not been approved by the Society."

I move, Mr. President, that this resolution be referred to the Council.

The motion was put to a vote and carried.

President Sawyer: I omitted one group of reports. We will have the reports of Council Committees. Report of the Speakers Bureau Committee, Dr. Glomset, chairman. (Absent.)

Reports of Council Committees

REPORT OF THE SPEAKERS BUREAU COMMITTEE

To Members of the Council:

We of the Speakers Bureau Committee, being very human, would like to be able to say that during 1936 we accomplished far more than we have in any previous year of our existence. We would like to say that our postgraduate courses had reached more physicians; that we had planned more county society programs; that we had given more talks to lay groups. However, due to the very severe winter which descended upon the state in the early part of 1936, we were forced to curtail many of our activities. Two postgraduate courses were cancelled outright, and other meetings were abandoned as roads drifted full of snow and temperatures fell far below normal.

In spite of all that, we still feel that much of worth was accomplished during the year. It is difficult to determine how much progress has been made in work as intangible as ours, but from the response we have had from members of our postgraduate courses, we feel that this phase of the work is always valuable.

During the spring of 1936, we presented two courses only; one was a laboratory course at Creston, with thirty-one members enrolled; and the other was a University course at Fairfield, attended by fourteen physicians.

About May twentieth we were told that we had been allotted some Social Security funds with which we might conduct "refresher" courses in obstetrics and pediatrics, provided the courses were given before July first. Hurried work was necessary to arrange for four centers and the necessary lecturers. Washington was one center, with thirty-three members enrolled; Clinton was the second, with twenty-two enrolled, Oelwein was the third center, with fifty-seven enrolled; and Garner the fourth, with twenty-five members. These courses were given during the extreme heat of the summer and on very short notice. Considering these factors, we feel that the attendance was good, although it no doubt would have been larger under more normal circumstances.

During the fall months, five courses were presented. Of these, two were University courses, given at Chariton, where nineteen physicians attended, and at Oskaloosa, where there were thirty-two enrolled. Responses from both of these centers were very enthusiastic, and were accompanied by requests that the courses be repeated another year.

Courses in general therapeutics were held at Davenport and Sheldon. Davenport had a total of about eighty physicians attending the lectures, and Sheldon twenty-seven. The men who attended at Sheldon have promised that if they may have another course in 1937, they will see that the attendance is tripled. That was their expression as to the worth of the course.

The cancer course was given at Waverly, with sixty-seven enrolled. Here again those attending expressed the opinion that the lectures were most valuable.

The total number of physicians attending the various courses during the year was four hundred and seven. This is less than the number attending lectures in 1935, but the cancellation of two courses accounts for that.

Programs were planned for twenty-nine county medical society meetings, in which forty-three physicians participated.

We were asked to help with only one district meeting during the entire year.

The number of talks given before women's clubs, service clubs, Parent-Teacher Associations, and similar groups increased to one hundred forty-eight. Of these, fifty-one talks were given to Parent-Teacher Associations, twenty-eight to women's clubs, thirty-four to service clubs, twenty-two to college audiences, and thirteen to social service workers.

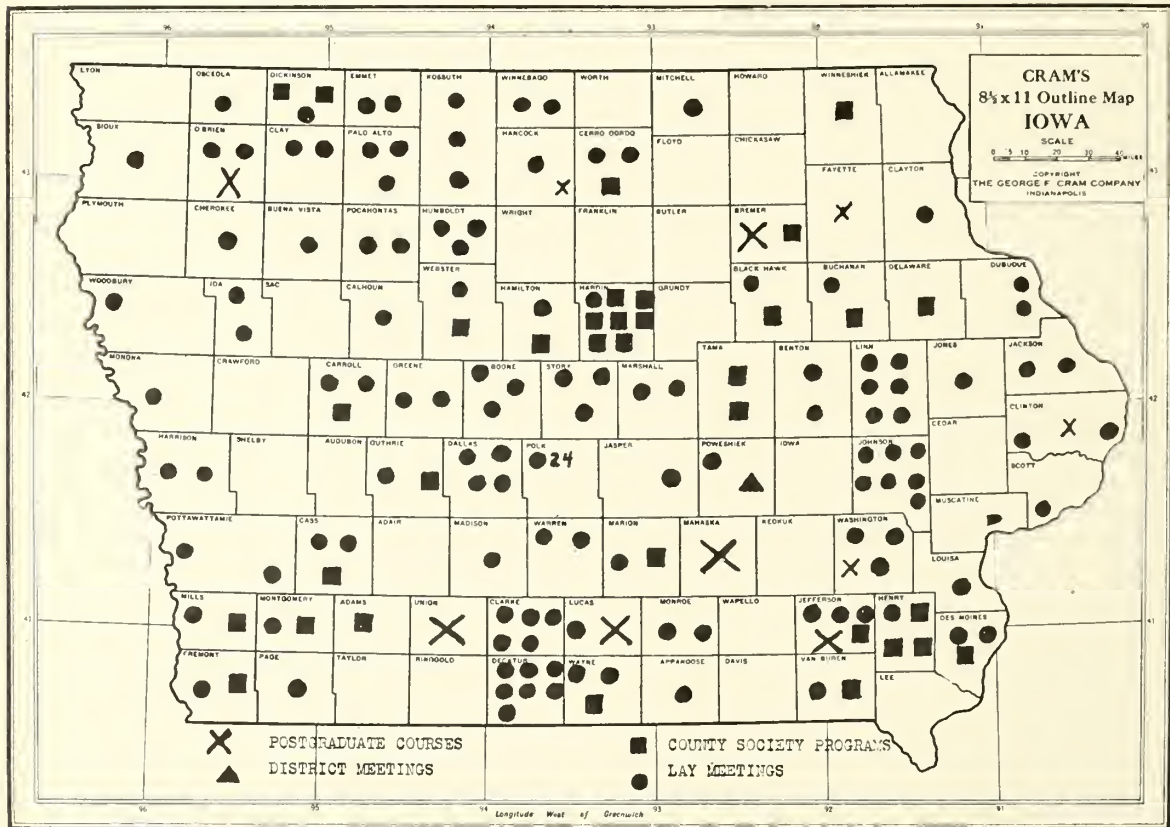
The talks to college audiences were a new feature of our work, and they proved to be very popular. The officers of the colleges where the talks were presented requested that they be continued, and it is planned to give even more of such lectures in 1937.

The social service workers appreciated the lectures given them very much, and it is our hope that with a better knowledge of medical problems, they will work in closer harmony with the medical profession.

Fifty-two radio talks were given during the year, prepared by fifty different physicians. The average number of requests for copies of these talks was nine. The radio stations estimate that there are between fifteen hundred and two thousand listeners for every request received. This means that our usual radio audience probably ranges between ten to fifteen thousand persons each week. These requests came from Minnesota, Wisconsin, Illinois, Missouri, Kansas, Nebraska, North and South Dakota, Colorado, Wyoming and California, as well as Iowa.

essays received were proof of the fact that the students had made a thorough study of the subject, and no doubt benefited accordingly.

In November, the Committee launched a new venture in public education, that of sending out weekly news articles on health subjects. Letters and articles were sent to all newspapers in the state explaining the purpose of the release and offering one weekly to those papers which desired to print them. One hundred newspapers responded and asked that they be put on the regular mailing list. These articles are prepared in the central office, and are corrected by a committee of five physicians before they are released to the newspapers. In that way they are checked thoroughly for accuracy and clearness, and



These broadcasts are presented each week over radio stations WOI at Ames and WSUI at Iowa City. We are greatly indebted to Dr. J. F. Edwards and Dr. John Grant of Ames, and Dr. M. E. Barnes of Iowa City, for their kindness in helping us with the presentations, as well as to the members of the staff of the radio stations, all of whom have been most kind in cooperating with us to give us favorable hours and days for our broadcasting period.

During 1936 the Speakers Bureau cooperated with the Woman's Auxiliary to the Iowa State Medical Society in sponsoring the annual health essay contest, which is open to all high school students in the state. The subject of the essay was "Immunization Against Disease—The Gift of Science to Mankind", and the

are made to represent the viewpoint of the medical profession. The Committee feels that the responses from the newspapers prove there is a need for this type of education, and the work will be continued.

A summary of the activities of the Bureau is shown by the accompanying map. This gives the locations where the various types of services have been offered more graphically than we can state it in words. On the whole, the entire state has been approached in some manner, although certain counties have used the Bureau less than others.

In conclusion, we present our financial statement, first for 1936, and then for the entire existence of the Bureau.

Account for 1936	
Income	
Receipts from postgraduate courses.....	\$ 2725.42
Travel expense refund.....	705.61
Received from dues.....	1500.00
TOTAL	\$ 4931.03
Expenditures	
Travel expense.....	\$ 702.84
Postgraduate course expenses.....	1657.71
Printing and stationery.....	234.25
Office Supplies	20.00
Radio talks.....	89.01
Salary	1500.00
Cancer committee.....	73.06
Miscellaneous	83.26
TOTAL	\$ 4360.13
Surplus for 1936.....	\$ 570.90
Total Receipts 1930 through 1936	
1930	\$ 2,780.00
1931	3,939.34
1932	2,805.58
1933	4,850.70
1934	5,550.90
1935	6,351.97
1936	4,931.03
TOTAL	\$31,209.52
Total Disbursements 1930 through 1936	
1930	\$ 306.26
1931	3,949.97
1932	5,855.70
1933	3,744.06
1934	4,316.30
1935	5,435.56
1936	4,360.13
TOTAL	\$27,967.98

During the first three years of its existence, the Speakers Bureau financed itself entirely from the money received from the postgraduate courses. In 1933, however, the Board of Trustees allowed it \$100.00 per month from the dues received, and since that time some allowance has been made each year. During 1933, 1934, and 1935 the allowance was \$100.00 per month, and during 1936 it was \$125.00 per month. The result has been that we have been able to charge a smaller fee for the postgraduate courses, and it is our hope that this smaller fee will permit more physicians to enroll and so receive the benefit of the courses. It seems proper that the other activities of the Bureau should be financed from the general funds, since they are activities furthered by the Society as a whole.

The Committee members of the Bureau present this report without apology. We believe that in spite of decreased numbers attending the postgraduate courses this year, the work is going forward steadily, and that more and more physicians are coming to see the worth of the work and are striving to make themselves better physicians. We believe the program of educating the general public in health matters is steadily becoming more valuable, and we feel that the citizens of Iowa are reaping the benefit of this program.

Daniel J. Glomset, Chairman
H. L. Brereton
Earl B. Bush
L. C. Kern
S. D. Maiden
James Dunn

Dr. Kern: Mr. President, I move that the published report be received and accepted.

The motion was put to a vote and carried.
President Sawyer: The report of the Cancer Committee, Dr. McNamara, Chairman.

REPORT OF THE CANCER COMMITTEE

During 1936 the Cancer Committee concentrated upon three main lines of endeavor:

1. Promotion of lay and professional education.
2. Publication of (a) a pamphlet on cancer for circulation among the laity and (b) a cancer manual for distribution to members of the profession.
3. Organization of the Iowa division of the Women's Field Army and its subdivisions, and aid in the promotion of its enlistment campaign.

Since the last annual report, the Councilors have appointed a physician chairman in each county to direct the cancer work. This has given us an effective organization for carrying on the lay educational program. Interest in this program has been stimulated by talks given by physicians before the Iowa Federation of Women's Clubs and its county units as well as before other women's organizations. As a result, many requests for addresses on cancer were received and approximately 100 meetings with an average attendance of 75 were held.

Members of the executive Cancer Committee also appeared before many county medical societies and hospital staffs and explained the organization and purposes of the Women's Field Army, sponsored by the American Society for the Control of Cancer. The Committee believes that, when developed to its full possibilities, the Women's Field Army should be a powerful ally of the Iowa State Medical Society in its attack upon the cancer problem. At the time of writing (March 1), the former organization is developing a campaign for enlistments. Every woman in Iowa is eligible for membership at a fee of one dollar per year. Men may become contributing members for the same fee. Seventy (70) per cent of the funds thus obtained will be used to further the cancer educational program in Iowa. Twenty (20) per cent will go to offset the expense of the American Society for the Control of Cancer in the field and ten (10) per cent will be placed in the contingent fund of that society.

One evidence of increased interest in cancer on the part of the medical profession is manifest by the number of articles concerning different forms of malignancy which have appeared in the Journal of the Iowa State Medical Society during the past year. Another indication was the postgraduate course given at Waverly by the Speakers Bureau. Many of the outstanding cancer experts of the United States gave lectures regarding the particular phases of the cancer problem in which they were most proficient. Such courses are invaluable and should be repeated in different parts of the state at least annually.

For several years it had been felt that a pamphlet on cancer, especially identified with the problem in Iowa, should be available for distribution to Iowa audiences. Accordingly, a 15 page article, written by Dr. J. H. Randall, assistant professor of obstetrics and gynecology, State University of Iowa

Medical School, with a foreword by Dr. Walter L. Bierring, was published by the Iowa State Department of Health. Seventeen thousand copies were mailed to those on the regular mailing list of the department and others are available for distribution upon request. The Committee believes that this pamphlet fills a long felt need and is deeply grateful to Dr. Randall and Dr. Bierring for making the publication possible.

The second publication, mentioned in the 1935 report, consists of a series of articles on the more common forms of cancer, and is designed for distribution to the physicians of Iowa by the Iowa State Medical Society. This publication will be ready for distribution shortly. In this work, the Committee was ably assisted by the following members of the medical faculty of the State University of Iowa: N. G. Alcock, W. M. Fowler, H. D. Kerr, R. F. Nomland, and F. R. Peterson. All the articles stress the need for early diagnosis and outline acceptable methods of treatment for the different types of cancer. The Committee is certain that this publication will prove helpful to the members of the Iowa profession.

During the year Dr. F. L. Rector, Field Representative of the American Society for the Control of Cancer, loaned the Committee a set of tumor registry slides which are being circulated to each pathologist in the state. All who have studied the slides have been greatly pleased with this opportunity of reviewing the histology of the common as well as unusual tumors. The Committee also wishes to express its appreciation of Dr. Rector's great aid and unflinching interest in developing the Iowa cancer program.

In July, 1936, the cancer clinic of the State University Hospital was provisionally approved by the American College of Surgeons. Now that Iowa has one cancer clinic, it behooves the hospitals in the large cities to organize their cancer work in such a way that the requirements for such approval can be met. Undoubtedly, the necessary facilities are available in many institutions, but they must be co-ordinated so as to meet the minimum standards. It is the hope of the Committee that several Iowa hospitals will be approved within a relatively short time. The Committee also suggests that county medical societies and the State Society might well officially adopt and finance a uniform system of keeping and filing adequate cancer records.

In conclusion, the Committee believes that there has been definite progress in the cancer program in Iowa. We greatly appreciate the aid of the Iowa Federation of Women's Clubs, the Iowa division of the Women's Field Army, and all those individuals who have helped carry on the work. The aim of all concerned is to lower cancer mortality in Iowa. With their continued cooperation, the state should experience such a reduction in the near future.

F. P. McNamara, Chairman
A. W. Erskine
E. D. Plass

Dr. Erskine: Dr. McNamara had to leave. He asked me to make a small supplementary report, which is a report of the results of the campaign conducted by the Women's Field Army.

Iowa was expected to get 6,000 members and \$6,000, and it got \$3,874. The results for the other middle western states, comparing the quotas with what they actually got, were as follows:

	Actual to date	Quota
Illinois	\$1,317	\$14,000
Indiana	530	6,000
Kansas	2,136	3,000
Michigan	1,500	5,000
Minnesota	1,350	9,000
Missouri	2,630	5,000
Nebraska	1,810	3,000

The only one that went over its quota of \$4,000 was Wisconsin, and they got \$7,866.86.

In the report there is a paragraph that I think I should call to your attention. It is close to the end, and it is about a uniform system of keeping and filing adequate cancer records. When new business comes, the Committee will probably make a motion that the Iowa State Medical Society adopt such a system. In the meantime, however, I wish to *move* that the report, with the supplemental report, be accepted.

The motion was put to a vote and carried.

President Sawyer: Now we come to new business. Is there any new business to come before the House of Delegates at this time?

Dr. Suchomel: Mr. President and members of the House of Delegates: The Linn County Medical Society met in regular session on April 29 and endorsed the so-called Mr. Bobst's plan on ethical advertising and instructed its delegates to recommend to the House of Delegates that "Linn County Medical Society approved Mr. Bobst's plan and the delegates be instructed to favor and give their support at the state medical meeting."

The above resolution was adopted by the Linn County Medical Society at its regular meeting on April 29, 1937, and is signed by the officers and delegates.

Mr. President, I *move* the acceptance of this report and that it be referred to the Committee on Public Policy and Legislation.

The motion was put to a vote and carried.

Dr. Suchomel: During the past few years you men who have held positions as health officers have received communications from the State Department of Health, from one bureau or another, relative to certain plans or public health campaigns that have already been worked out for you. You were told what you were to do and how you were to do it, or take the consequences.

The Linn County Medical Society feels that the time has come when all public health measures that affect the general practice of medicine in the state of Iowa should go through the proper channels as provided by our By-Laws. I wish to present the following resolution:

"To the President, Officers and Members of the House of Delegates of the Iowa State Medical Society:

"Whereas, numerous campaigns of a public health nature have their apparent origin over the signature of the State Commissioner of Health, and

"Whereas, plans in general are worked out and conditions created to place the burden of accomplishment, both physical and financial, directly upon the shoulders of the medical profession of the state of Iowa, without any previous consultation with the representatives of the profession, and

"Whereas, the various plans and schemes are worked out by individuals or groups of individuals who have had absolutely no experience in the general practice of medicine; be it therefore

"Resolved, that the delegates of the Linn County Medical Society to the House of Delegates of the Iowa State Medical Society are hereby instructed to request that the House of Delegates of the Iowa State Medical Society rule that all plans and schemes pertaining to public health and affecting the general practice of medicine of the state of Iowa be referred to the Council of the Iowa State Medical Society for investigation and approval, in accordance with Chapter VII, Section 4 of the By-Laws of the Iowa State Medical Society."

The above resolution, as read, was adopted by the Linn County Medical Society at its regular session on April 29, 1937, and is signed by the officers and delegates.

Mr. Chairman, I *move* that the resolution be received and referred to the Committee on Public Policy and Legislation.

The motion was put to a vote and carried.

President Sawyer: Is there any further new business to come before the meeting? Then the next matter to come before us is the election of the Committee on Nominations. You will meet, elect your representatives and report the names to our Secretary.

The delegates held caucuses for the purpose of electing a Committee on Nominations. The meeting recessed at six-fifteen o'clock.

Friday, May 14

The meeting convened at seven thirty-five o'clock, President Sawyer presiding.

President Sawyer: Will the House please come to order. We will have the roll call.

Secretary Parker called the roll; there was a total of 75 delegates, alternates and officers seated.

President Sawyer: The next order of business will be the reading of the minutes of the last meeting.

Secretary Parker: Mr. President, I will read an abstract of the minutes of the previous session. The full minutes will be published in the July JOURNAL.

The Secretary read an abstract of the minutes of the Wednesday afternoon session.

President Sawyer: If there are no errors or corrections, the minutes will stand approved as read.

Dr. MacEwen: There is one correction in the report of the Baldrige Memorial Committee. A sealed

envelope contains the name of the contestant. The names coming to the Committee are *nom de plumes*. That is all we know about it. The Committee has the envelope.

President Sawyer: The next order of business is the report of the Committee on Nominations. Is the Committee ready to report?

Dr. Kern: Mr. President, the Nominating Committee met and, after due deliberation and in accordance with our instructions in the Constitution and By-Laws, we place in nomination the names of the following three men for the office of President:

Clyde A. Boice, Washington; Arthur W. Erskine, Cedar Rapids; A. A. Johnson, Council Bluffs.

For First Vice President: Kenneth L. Johnston, Oskaloosa.

For Second Vice President: Arch F. O'Donoghue, Sioux City.

For Trustee: E. L. Wurtzer, Clear Lake.

For Delegate to the American Medical Association: Fred Moore, Des Moines.

For Alternate to the American Medical Association: W. A. Sternberg, Mount Pleasant.

Councilors—First District: Felix A. Hennessy, Calmar; Sixth District: Charles W. Ellyson, Waterloo; Eleventh District: M. C. Hennessy, Council Bluffs.

Place of Meeting: Des Moines.

Time: Second Wednesday, Thursday and Friday of May, providing these dates do not conflict with the meeting of the American Medical Association.

President Sawyer: You have heard the report of the Nominating Committee. We will now proceed to the election of President-Elect by ballot. I will appoint Dr. Beam, Dr. McNamara and Dr. Bernard as tellers. Gentlemen, you are voting for President-Elect. There are three nominees:

Clyde A. Boice, Washington; Arthur Erskine, Cedar Rapids; A. A. Johnson, Council Bluffs.

The members proceeded to cast their ballots, following which the count was made.

President Sawyer: The vote for President-Elect is:

Dr. Erskine, 42 votes; Dr. Boice, 26 votes; Dr. Johnson, 7 votes.

A majority of votes having been cast for Dr. Erskine, there will be no necessity for a second ballot.

Dr. Bush Houston: I *move* that the unanimous ballot of the House be cast for Dr. Erskine.

The motion was put to a vote and carried.

President Sawyer: Is Dr. Erskine in the house? I would like to have you make a speech, Doctor, if we had a little more time. Members of the House, I want to present to you Dr. Erskine, our new President-Elect, and I want him to say just a word.

President-Elect Erskine: I appreciate this honor, the greatest honor that I have ever received or can possibly expect to receive. I hope that I may have some degree of the qualifications for this office that you seem to think I have.

Now, Mr. President, it becomes my duty to resign, to withdraw from the finest group that I have ever

had the privilege to work with, the Council. I give you my resignation as Councilor of the Seventh District.

President Sawyer: Will we accept Dr. Erskine's resignation as Councilor of the Seventh District?

Dr. Spilman: I *move* it be accepted.

The motion was put to a vote and carried.

President Sawyer: The Nominating Committee will retire and nominate a Councilor for the Seventh District, please.

The next order of business is the election of first vice president. Kenneth L. Johnston has been nominated. Are there any other nominations from the floor? The Chair will entertain a motion to close the nominations.

Dr. Brinkman: I *move* that the nominations be closed and that the Secretary cast the unanimous ballot of the House for Dr. Johnston as first vice president.

The motion was put to a vote and carried.

President Sawyer: The next office is that of second vice president. Arch F. O'Donoghue has been nominated. Are there any other nominations from the floor?

Dr. Spilman: I *move* that the nominations be closed and the Secretary be instructed to cast the unanimous ballot for Dr. O'Donoghue.

The question was put to a vote and carried.

President Sawyer: I hereby declare Arch F. O'Donoghue elected second vice president.

The nominee for Trustee is E. L. Wurtzer of Clear Lake. Are there any other nominations?

Dr. Braunlich: I would like to nominate Dr. Oliver J. Fay of Des Moines.

Dr. E. A. Moore: Mr. Chairman and members of the House: It has been my privilege to belong to this Society for a period of thirty-three or thirty-four years. I think I served in the first or second House of Delegates. I see only one man, possibly two, who served with me at that time. I have served numerous times in the House of Delegates, not actively, but I have been a quiet observer, and there have been times when I felt a good deal like some of the rest of you have felt, that I would like to take charge of the Iowa State Medical Society and run it myself. However, like the story that was told last night, I went back home to the ranks, went back to my county society, went to work and came back the next year to get the blade sharpened.

Some five, six or seven years ago, after observing the actions of our representative in the general assembly, it occurred to me that the physicians might be better represented in the assembly if they had a few of their members in our state assembly.

I made arrangements with our representative at that time to notify me when he got tired of his perennial migrations to Des Moines, and he did so.

It was my privilege to be elected and serve in the Forty-sixth and Forty-seventh General Assemblies. Naturally, that service brought me in closer contact with the legislative side of our medical profession. It was often necessary for us to seek counsel of those

who had had more experience in the transactions of the Medical Society. As for the results accomplished, I am willing to let those speak for themselves. I have many warm friends in this Society, I am sure, and among the members of the Council. I wouldn't take anything for those friendships. I think a man's qualities should be considered regardless of where he lives. I want to tell you that I never went to my good friend Ollie, as I call him, for counsel, without getting it and without getting the best that there was. I know something of Dr. Fay's standing in the surrounding states.

Through my legislative experience, I think I can look around the corner and see some of the trying times that may come up during the next few years. I know what we have been through the last five years. I believe we would make a serious mistake if at this time we dropped one of the experience of Dr. Fay, regardless of any other thing. At this time I wish to give you my personal plea to accept the nomination of Dr. Fay as a candidate for the office of Trustee of this Society, because my personal belief is we need him, and that is without any personal animus toward any other candidate. I think that is one of the first things that we learn in serving in the state legislature, to give and take. I hope that no one in this group will take my remarks as anything personal, because they are not. I just make it on the plea, on the justification, that we need a man of the experience of Dr. Fay on the ground to look after the welfare of this Society. I think the condition of the Society at this time bears me out in making that statement.

President Sawyer: Are there any further nominations?

Dr. Wurtzer: Mr. President, I would like to say a few words. I appreciate very much the remarks made by Dr. Moore. I am heartily in accord with everything he has said. Even though my name has been brought up as a candidate for Trustee, with the permission of the Nominating Committee and the House of Delegates, without any insult or malice to anyone in particular or in general, I would like permission to withdraw my name in favor of Dr. Fay.

President Sawyer: I don't think that can be done. I think we have to elect one of the two. Are there any further nominations? If not, the nominations are closed. Proceed to ballot on Dr. Fay and Dr. Wurtzer for Trustee.

Dr. Wurtzer: I *move*, Mr. President, that the Secretary cast the unanimous ballot for Dr. Fay.

President Sawyer: Gentlemen, it has been moved and seconded that the Secretary cast the unanimous ballot of the House for Dr. Fay as Trustee. All those in favor please say "aye"; contrary, the same sign. *It is unanimously carried.* Dr. Fay is elected Trustee.

We will listen to the report of Dr. Kern.

Dr. Kern: Mr. President, it was the unanimous vote of the Nominating Committee that Dr. McNamara of Dubuque be placed in nomination for Councilor in place of Dr. Erskine.

President Sawyer: It has been moved and seconded that Dr. McNamara serve as Councilor from

the Seventh District. All those in favor of that please say "aye"; opposed, the same sign. *It is carried.*

Dr. Fred Moore of Des Moines has been nominated as Delegate to the American Medical Association. Are there any other nominations?

Dr. Spilman: I move that the Secretary cast the unanimous ballot for Dr. Moore.

President Sawyer: It has been moved and seconded that the Secretary cast the ballot of this House of Delegates for Dr. Moore as Delegate to the American Medical Association. Those in favor say "aye"; opposed, the same sign. *It is carried.*

Dr. W. A. Sternberg has been nominated as Alternate Delegate. Are there any other nominations?

Dr. Spilman: I move that the Secretary cast the unanimous ballot for Dr. Sternberg.

The motion was put to a vote and carried.

President Sawyer: Felix Hennessy has been nominated as Councilor of the First District. Are there any other nominations?

Dr. Baker: I move that the nominations be closed and the Secretary cast the unanimous ballot for Dr. Hennessy.

The motion was put to a vote and carried.

President Sawyer: C. W. Ellyson of Waterloo has been nominated as Councilor of the Sixth District. Are there any other nominations?

Dr. Brinkman: I move that the nominations be closed and the Secretary cast the unanimous ballot for Dr. Ellyson.

The motion was put to a vote and carried.

President Sawyer: Dr. M. C. Hennessy of Council Bluffs has been nominated as Councilor of the Eleventh District. Are there any other nominations?

Upon motion regularly made nominations were closed and the Secretary was instructed to cast the unanimous ballot for Dr. Hennessy.

President Sawyer: Now in regard to the meeting place. Do I hear any motion in regard to the meeting place?

Member: I think there was a resolution passed several years ago that the meeting be held alternately between Des Moines and some other city, that Des Moines have it for two years and the next time the meeting go somewhere else. Inasmuch as Sioux City has had this meeting, I think it would necessarily be Des Moines' turn.

Dr. Spilman: I move we go to Des Moines.

The motion was put to a vote and carried.

In adopting the report of the Nominating Committee, the House adopted the recommendation that the 1938 annual meeting be held the second Wednesday, Thursday and Friday of May, provided this did not conflict with the meeting of the American Medical Association.

President Sawyer: One thing we omitted in the meeting on Wednesday was the approval of the minutes of the Friday morning session of 1936. Do I hear a motion to approve those minutes?

Dr. Spilman: I move we approve them.

President Sawyer: It has been moved and seconded that the minutes of the Friday morning session of 1936 be approved. All those in favor say "aye"; opposed, the same sign. *It is carried.*

The next order of business is the report of the Committee on Constitution and By-Laws, Walter R. Brock, Chairman. John Henkin of Sioux City will make that report.

Dr. Henkin: The proposed changes in the By-Laws were read at the session on Wednesday. Perhaps a little explanation of why this Committee has made these recommendations is called for.

The first recommendations for changes in the By-Laws are as follows: (Dr. Henkin read the proposed changes to Chapter VI, Section 5.)

It was the thought that the Trustees, of whom there are three, who regulate many important functions of the State Society, would perhaps best be distributed throughout the three parts of the state, so that each Trustee was in touch with a certain number of districts in the state and, therefore, in closer touch with the doctors that comprise that district. Perhaps in that way they could best represent their opinions and their wishes in certain policies that come up in the interim between sessions of the House of Delegates.

I think that in all parliamentary government, the various parts of a unit are usually represented, so that their wishes may be consulted and their thoughts carried out. That was, of course, what gave rise to the suggestion of this amendment to the By-Laws.

Secretary Parker: Mr. President, may I offer the suggestion that, since we have had one reading of these proposed amendments, on this reading we take them up individually and vote on the individual amendments.

President Sawyer: Dr. Henkin has read No. 1: Chapter VI, Section 5. Omit that portion of paragraph 4, page 13, which reads "during the intervals between sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees and may appoint emergency committees."

I have read that so you will know just what you are voting on.

Dr. Braunlich: I imagine that if we vote for this amendment and then vote down the third one, we would be in an awful fix. Nobody would know what to do in the meantime. In the past, the Board of Trustees has handled the affairs of the Society between sessions of the House of Delegates, and has always done good work. I don't see any possible reason for taking that power away from the Board. Three men certainly can do a whole lot better than eleven men can. I think we ought to vote this down.

Dr. Ellyson: I see at the close of these ten amendments, on page 46, it states: "These amendments just outlined have been recommended by the Council and your Committee on Constitution and By-Laws urges their adoption."

It may be that the Council was a little slow on its pick-up in connection with these amendments, but I believe we can save a lot of time by getting a little clarification right at the start on this first amend-

ment. If the Chairman of this Committee will permit me to add a few remarks as Chairman of the Council Committee which studied this matter since last September, I believe our Committee can help to clear the next nine of the ten sections.

In September we realized that as a Council we had had for ten or eleven years a lot of duties to perform and no power to follow through in the performance of those duties. In other words, we were meeting from four to six or eight times a year at the expense of the State Society and at our individual expense and we were getting nowhere.

The Committee was appointed, consulted Olin West for a set-up of the model constitution, which we have here, and attempted to outline a set-up that would fit the Iowa situation, leaving the Board of Trustees absolutely as they stood, and the Council with authority as an administrative body, together with the officers and Trustees, if possible, to carry on the activities of the Society between the sessions of the House of Delegates.

It seems that somewhere between the report of this Council, or Committee, and the report of the By-Laws Committee, some of the recommendations were modified and changed, and some were omitted, which were minor, but it changed entirely the recommendations of the Committee of the Council as to the suggested By-Law changes.

The whole meat of the proposition is that the Council desires, with the officers and the Trustees of the Iowa State Medical Society, to be able to conduct the various phases of the business of the Society in the interim between annual sessions so that during the year, they can back up and be backed up by as representative a body as the House of Delegates, without calling a special meeting of the House of Delegates.

The suggestion has been made and is ready to be proposed, if the House of Delegates so desires, that our set-up conform to the New York set-up, and the American Medical Association set-up, where the Trustees of the State Society, the Council, the President-Elect, the President, the Secretary and the Treasurer act with full power to represent the Society during the interim between annual sessions. This set-up has been adopted by a number of states and can easily accomplish all that these ten sections would accomplish, which has simply confused the whole proposition.

President Sawyer: You have heard Dr. Ellyson.

Dr. A. D. Woods: May we hear from some of the other Councilors? Let's thrash this thing out.

Dr. M. C. Hennessy: I have been on the Council for five years. I am going to mention a few things, not to open old sores, not to create any discord, but merely to show you that there has to be something provided, some organization or someone who can handle certain problems that come up from time to time between sessions of the House of Delegates. I happen to be a member of the Medical Economics Committee, as well as of the Council. Let me cite one

case. The Resettlement people asked for a meeting of the Medical Economics Committee the other day. They want the Medical Economics Committee to offer some proposition to handle the medical care of those people on resettlement in the state of Iowa. Your Constitution provides that the Medical Economics Committee can make recommendations. Your Medical Economics Committee has no power to act. The present number of those in Iowa who are clients of the Rural Resettlement Administration is about 45,000. That is quite a factor, medically and financially, to the men who have to deal with these people. Certainly, no one wants to work under the proposition as the Resettlement Administration has it set up now. There is cut after cut in the fee bills rendered from the various locations. Something has to be done about that.

Assuming that the Medical Economics Committee can arrive at some solution which appears to be satisfactory to them and to the best interests of the medical profession in Iowa, who is going to authorize any acceptance of that program until you have a meeting of the House of Delegates? Certainly, somebody in the set-up of the Iowa State Medical Society should be empowered to transact business of that type, subject to the final approval of the House of Delegates when they met the next time, either at a called session or at their annual meeting.

The same situation holds true with the medical program of the Iowa Emergency Relief Administration. Certainly the Iowa Emergency Relief Administration medical program has not proved satisfactory over the state. No one county out of the ninety-nine is going to solve this problem. If you are going to do anything about that and make a satisfactory arrangement, you have to do it as the state of Iowa, and not as one county. Who is going to handle that kind of a thing? Who is going to make a decision when that comes up?

As I started out to say, I sat in on many and many a session my first few years on the Council, hashing over a couple of matters that were distasteful to everybody. I have analyzed my own experience, and it cost me about \$1,000 a year to sit as a member of the Council. It cost the State Medical Society approximately \$200 a session for a meeting of the Council. We did a lot of talking about many things. We tried to follow the Constitution and arrive at decisions, and yet when we would arrive at a decision there was nothing we could do to enforce it.

I am not asking for any power for the members of the Council. I don't care if you don't want to give it to the Council but give it to somebody. There has to be somebody to transact different matters that come up. You are going to have a lot of them under the social security set-up. You have a lot of them coming up from time to time in connection with the State Department of Health. Who is going to give a decision for the 2,300 members of the Iowa State Medical Society? There is no one au-

thorized to do it now, except the House of Delegates, and they meet once a year. Are you going to have special sessions frequently?

I honestly believe that the Council as an organization is more truly representative of the membership of the State Medical Society because each Councilor represents nine counties in his own district. He has to live with the men in those nine counties. He is not very likely, I believe, to try to usurp anyone's powers or authority, because he still has to go back and make a living and come in contact with the men whom he is representing. If something comes up that requires a decision, there isn't a man on the Council who isn't going to contact his neighbors in his immediate vicinity before he expresses his opinion and, when he does come, he is going to express the sentiment of the group that he represents.

Dr. Brinkman: Mr. President, if it is in order I should like to make a motion. We have neither the time to consider this nor are we in the mood to do so. I don't think we know enough about it to act wisely today. I *move* that the first ten articles of proposed amendments be laid on the table until some future meeting; furthermore, that the Chair appoint a committee to work this matter out and report on it later. We won't get any place here; we will change our set-up and perhaps it will be worse than it was before we changed it. That is my motion.

Dr. Hanna: This business comes before the House of Delegates—

Dr. Fred Moore: I rise to a point of order. A motion to table is not debatable.

President Sawyer: Your point of order is well taken. I think that it is a wise thing to put this matter on the table for the present and appoint a committee to thrash this all out, so that we won't make any mistake. All in favor of that motion say "aye"; contrary, the same sign. *It is carried.*

Dr. Henkin: The other proposed change in the Constitution and By-Laws is as follows. (Dr. Henkin read the proposed change to Chapter XII, Section 5.)

This amendment is in conformance with a motion adopted at the Conference of State Society Secretaries in Chicago at the American Medical Association, in November, 1936.

Secretary Parker. Mr. Chairman, I *move* that this amendment be made to the By-Laws.

President Sawyer. It has been moved and seconded that this amendment be adopted. All in favor say "aye"; contrary, the same sign. *It is carried.*

Now a motion to adopt the report as a whole, please.

Dr. Fred Moore: I so *move*, Mr. President.

President Sawyer: It has been moved and seconded that the report of the Committee on Constitution and By-Laws be adopted as a whole. All in favor please say "aye"; contrary, the same sign. *It is carried.*

Dr. Fuller: Does that carry with it all these amendments?

President Sawyer: No, the first ten were laid on the table. This simply includes the last amendment.

Dr. Fred Moore: I should like to make a brief statement and conclude with a motion that will cover this question of having a group to determine the policy of the State Society in the interim between meetings of the House of Delegates. Is that in order?

President Sawyer: This matter was tabled.

Dr. Fred Moore: It has nothing to do with that.

President Sawyer: State it.

Dr. Fred Moore: I would feel remiss if I did not come before this House of Delegates and emphasize the very great need of the thing which has been outlined by the Council, the need of some group which shall have the authority to determine the attitude of the State Society on many problems and make statements for the State Society. We have run into the need repeatedly in connection with legislative work. Many questions have been asked of the Legislative Committee. "What is the attitude of the State Society on this, that and the other thing?" I want to say to you very frankly that we of the Legislative Committee have not wished to assume the responsibility of determining, without counsel, what is the attitude of the State Society on some of these questions. I appreciate the difficulty in the matter of time involved here, and I want to *offer this motion*: That the President, the Chairman of the Board of Trustees and the Chairman of the Council shall be constituted as a committee to choose a group from the officers or the committeemen of the State Society, which shall have the power to act for the State Society and determine these questions in the interim between the meetings of the House of Delegates. In offering that motion I do it with the understanding that this would be a special committee and would have a life of one year only, unless renewed by this House of Delegates.

Dr. Woods: I rise to a point of order. It seems to me that that motion repudiates the motion that was made a moment ago, and it is reopening the question that we voted to refer to a committee to take care of in the next year. If you adopt this motion, you are going ahead and doing the very thing we felt we were not competent to do here today.

President Sawyer: The point is well taken.

Dr. Fred Moore: I don't believe I am out of order because I am not reopening the matter in the manner he stated.

President Sawyer: I think you are out of order. If you want to appeal from the decision of the Chair, we will have a vote on it from the House.

Dr. Fred Moore: I appeal from the decision of the Chair.

President Sawyer: You have heard the motion by Dr. Moore. Dr. Woods has called a point of order to the effect that Dr. Moore's motion was out of order. The Chair has ruled that point of order well taken. I will ask those who think the point of order was well taken to please stand.

Dr. Fred Moore: May I state why I believe I am in order?

President Sawyer: Yes.

Dr. Fred Moore: The reason why I believe I am in order is because the proposed changes in the By-Laws delegated authority specifically to a particular group of officers in this Society, and it would remain there until further changes were made in the By-Laws. The thing which I have proposed is a special committee which will function only until this House of Delegates meets again.

President Sawyer: That committee would die in one year?

Dr. Fred Moore: Exactly. It would have the status of a special committee.

President Sawyer: The point of order was not well taken.

Dr. Albright: At the bottom of page 13 of the By-Laws it states: "During the interval between sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees, and may appoint emergency committees."

This motion of Dr. Moore's is in direct conflict with that, and that is what we voted a moment ago to postpone until next year.

Dr. Hanna: I want to oppose hurrying a decision on this matter. I don't believe the action of this assembly should be hurried so rapidly that proper consideration cannot be given to the matters that come up before us. This body meets only once a year. One of the problems we are discussing is the fact that we are unable to express our sentiments oftener than once a year.

President Sawyer: That point is well taken, but you must remember that we have guest speakers from all over the country. We have Dean Lewis, and the President of the American Medical Association speaking at nine o'clock this morning. That is why I am trying to push this thing through, in courtesy to those gentlemen. I don't think we need to take too much time here. What is there before the House?

Dr. Fred Moore: Mr. Chairman, I am sure the committee that was included in that motion was a committee to study the whole situation and report their recommendations for a permanent policy. That is entirely different from the thing which I proposed.

Dr. Woods: I still maintain that the motion Dr. Moore has made places power in the committee which would be appointed under his motion that would take the place of the very thing that is supposed to be studied for one year. We have gone on record here this morning as not being capable of deciding this thing today and that a committee should be appointed to study the matter. In the meanwhile, if you appoint the committee that Dr. Moore wishes, that committee goes ahead and does the very thing that we say we are not competent to decide yet. I contend my point was well taken.

Dr. Fred Moore: Mr. Chairman, if we don't appoint this interim committee, we go ahead and do nothing for another year.

Dr. Woods: We said we weren't competent to decide this matter today.

Dr. Fred Moore: We have been doing nothing too long.

Dr. Hanna: That was the object of the change in the By-Laws.

Dr. Felix Hennessy: This is an economic proposition with which you are dealing. Your Council has no idea whatever of assuming any dictatorial powers in relation to this committee. All we wish to do is to carry to you men the wishes of our constituency, which we have done and which we have talked about for two or three years. I am happy to know that the Legislative Committee as well as the Secretary of the Society has recognized the necessity of such an interim group in the state of Iowa. Are you men not willing to deliberate fifteen, twenty, or thirty minutes here this morning to decide on some plan to meet medical problems that are cut and dried when they come to us and which are laid over in the laps of the Council or some other group which has no authority to settle them? Are you going to sit here when these problems are brought to the Society and say, "The Iowa State Medical Society has no plan for another year?" and thus let the Federal Government and the Social Security Act take away from the members of the Iowa State Medical Society their rights to assert themselves as individuals and as an organization? Gentlemen, that is the point involved. Why not deliberate a little bit and find out something right now? Dr. Moore knows that these matters can't wait. When they come up there are long distance telephone calls at midnight or any hour of the day, wanting to know what to do.

In a year's time many things can be done to organized medicine in the state of Iowa by well outlined plans of social workers and economic specialists. I wish you would consider Dr. Moore's motion. This is something that should not wait a year to be decided.

Dr. Hanna: I *move* that the proposition that has been laid on the table be taken from the table and be brought up again for consideration.

President Sawyer: There is a motion before the house.

Dr. Hanna: I *move* as a substitute motion that the matter of By-Law changes be removed from the table and be reconsidered.

President Sawyer. You have heard the motion made by Dr. Fred Moore. I don't like to rule on this. Dr. Woods made the point of order that Dr. Moore was out of order. I prefer that the House rule on that. I want that point of order ruled on right now.

Dr. Woods: I make a point of order that there is a substitute motion before the house, and a substitute motion takes precedence over the other. We should vote on the substitute motion.

President Sawyer: Then you withdraw your other point of order? You don't want to pay any attention to that?

Dr. Woods: If we vote on this substitute motion, my other point of order is withdrawn.

President Sawyer: Gentlemen, the question be-

fore the house is the substitute motion, that the matter of the By-Law changes be taken from the table and come before the House of Delegates. All those in favor say "aye"; contrary, the same sign. A rising vote, please. *It is carried.*

Dr. Hanna: I move that the By-Laws revisions be considered section by section.

The motion was lost for lack of a second.

Dr. Moore: I move that the President, the Chairman of the Board of Trustees, the Chairman of the Council and a representative of the House of Delegates, to be chosen by the House, shall be constituted as a committee to choose a group from the officers or committeemen of the State Society and that that group shall be clothed with the authority to speak for the Iowa State Medical Society until the next meeting of the House of Delegates.

Dr. Ellyson was called upon to explain once more the set-up which he as a representative of the Council desired to see put in force. Dr. Ellyson explained that this was the same set-up as recommended by the model Constitution and By-Laws of the American Medical Association and in effect in other states.

Dr. Ellyson: I shall read the set-up recommended by the Council: "The Executive Council of the Iowa State Medical Society shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates shall be called into session, as provided in the Constitution and By-Laws. This Executive Council shall consist of the Councilors, the Board of Trustees, the President, the President-Elect, the Secretary and the Treasurer of the Society. Three-fourths of the Councilors must be present to constitute a quorum." As Chairman of the Council Committee on Constitution and By-Laws, may I explain that this is the set-up given in the model constitution and by-laws of the American Medical Association with the exception that in its set-up the Council is the Board of Trustees. We have a better set-up by having the Board of Trustees a separate group. As a substitute motion, I move that such a group be appointed as an emergency special committee to act during the coming year until the By-Laws can be amended to include this set-up as a permanent thing.

The substitute motion was carried unanimously.

Dr. Marker: I move that the other changes which are being considered after having been removed from the table be laid on the table until next year.

Dr. Woods: I amend that motion to the effect that the other changes be rejected.

Dr. Marker amended his motion to read that the proposed changes two to ten, inclusive, be rejected. *The motion as amended was carried.*

Dr. Marker: In view of that action, I move the adoption of proposal one of the amendments which reads: Chapter VI, Section 5. Omit that portion of paragraph 4, page 13, which reads: "during the intervals between sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees and may appoint emergency committees."

The motion was carried.

President Sawyer: Is there any new business which should come before the House at this time?

Dr. Erskine: In the absence of Dr. Konzett, Chairman of the Fracture Committee, I have been asked to read the following report of that Committee: "The House of Delegates Wednesday received a communication from Dr. Steindler relative to the Fracture Committee. As Chairman of your Fracture Committee, I should like to make the following recommendations:

1. That the committee be reappointed and made a special committee of the House rather than a subcommittee of the Committee on Medical Education and Hospitals.

2. That permission be granted to have a meeting in Des Moines early in the fall of the entire membership, namely the executive group of seven members and one representative from each county, the purpose of the meeting being to complete organization for disseminating education in the treatment of fractures. Donald Konzett, Chairman Fracture Committee."

Dr. Erskine: I move that the request incorporated in this report be granted.

The motion was carried.

Dr. Erskine: In the absence of Dr. McNamara, I have been asked to introduce the following motion on behalf of the Cancer Committee: "That the House of Delegates authorize the establishment, with the approval and under the direction of the Cancer Committee, of a central bureau for collecting and filing adequate cancer records; and that the Cancer Committee be directed to designate, subject to the approval of the Board of Trustees, some suitable person to supervise the collection and filing of such records."

The motion was carried.

Dr. Felix Hennessy: With reference to the resolution of the Decatur County Medical Society which was referred to the Council, the Council recommends that the Secretary of the State Society prepare a bulletin to be sent to every county society secretary and to be read to every member of the county society, stressing the fact that members who are asked to contribute their services in conducting clinics should refuse to do so unless such a request has been approved by the county medical society in which the clinic is to be conducted.

The recommendation of the Council was approved by the House.

Dr. Moore: There were two resolutions passed by the Linn County Medical Society which were introduced on Wednesday and referred to the Committee on Public Policy and Legislation. The first one was concerning the endorsement of the Bobst plan. We have been unable to locate Mr. Bobst and learn what his plan is but I am advised that this is a program of advertising and publicity to the laity concerning medical problems and ideals. Inasmuch as the House adopted the report of the Committee on Medical Economics, in which was included a recommendation that the House of Delegates of the State

Medical Society memorialize the House of Delegates of the American Medical Association to establish a permanent fund for an advertising and publicity campaign, I believe that this matter has already been taken care of. Your Committee therefore *moves* that this resolution be laid on the table.

The motion was carried.

Dr. Moore: The other resolution by the Linn County Medical Society was to the effect that any health program initiated by the State Department of Health must be approved by the Council and notice of that approval given to the county in which it is to be put in effect. The Legislative Committee *moves* that this also be laid on the table because under the provisions of the Committee on Child Health and Protection all such programs have been referred to the county society for approval. As a general thing this policy has been carried out. Possibly there are some errors and exceptions. Adopting this resolution as introduced would take local option on such matters from the county and give it to the Council. The motion adopted this morning concerning the Executive Council will take care of such things in the future and this resolution is unnecessary.

Dr. Van Winkle: These errors are happening. Dr. Bierring and Dr. Moore have both admitted it. We in Linn County don't want them to happen in the future and for that reason introduced this resolution.

The motion to lay the resolution on the table was carried.

President Sawyer: If there is no further new business to be brought before the House I shall call on your incoming president to announce his committee appointments.

Dr. Myers: With the approval of the House of Delegates I should like to make the following appointments:

Chairman, Medical Section—L. E. Cooley, Dubuque.
Chairman, Surgical Section—N. M. Whitehill, Boone.
Chairman, Eye, Ear, Nose and Throat Section—
Abbott M. Dean, Council Bluffs.

COMMITTEE ON CONSTITUTION AND BY-LAWS

John H. Henkin, Chairman.....Sioux City
Aldis A. Johnson.....Council Bluffs
Bush Houston.....Nevada

COMMITTEE ON FINANCE

E. C. McClure, Chairman.....Bussey
A. S. Bowers.....Orient
Leslie L. Carr.....Clermont

COMMITTEE ON MEDICAL ECONOMICS

T. F. Thornton, Chairman.....Waterloo
James C. Hill.....Newton
A. C. Moerke.....Burlington
M. C. Hennessy.....Council Bluffs
E. E. Shaw.....Indianola

COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Jack V. Treynor, Chairman.....Council Bluffs
T. F. Hersch.....Cedar Rapids
J. E. Brinkman.....Waterloo

MEDICO-LEGAL COMMITTEE

Frank A. Ely, Chairman.....1938.....Des Moines
Geo. C. Albright.....1939.....Iowa City
C. S. Cornell.....1940.....Knoxville

COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Fred Moore, Chairman.....Des Moines
R. D. Bernard.....Clarion
E. L. Wurtzer.....Clear Lake

BALDRIDGE MEMORIAL COMMITTEE

Julius Weingart, Chairman.....Des Moines
E. B. Dawson.....Fort Dodge
H. W. Rathe.....Waverly

CHILD HEALTH AND PROTECTION COMMITTEE

R. H. McBride, Chairman.....Sioux City
E. D. Plass.....Iowa City
H. E. Farnsworth.....Storm Lake
Lee F. Hill.....Des Moines
Howard A. Weis.....Davenport
C. P. Phillips.....Muscatine
Roland Stahr.....Fort Dodge

MEDICAL LIBRARY COMMITTEE

Con R. Harken, Chairman.....Osceola
W. S. Greenleaf.....Atlantic
Jeannette Dean-Throckmorton.....Des Moines

HISTORICAL COMMITTEE

Walter L. Bierring, Chairman.....Des Moines
Frank M. Fuller.....Keokuk
T. B. Throckmorton.....Des Moines
Pearl E. Somers.....Grinnell
A. E. Wanamaker.....Hamburg
William Jepson.....Sioux City

COMMITTEE ON SCIENTIFIC EXHIBITS

F. P. McNamara, Chairman.....Dubuque
Frederick H. Lamb.....Davenport
Allen C. Starry.....Sioux City

PUBLIC RELATIONS COMMITTEE

W. R. Brock, Chairman.....Sheldon
Wm. C. Goenne.....Davenport
L. K. Fenlon.....Clinton
H. E. Stroy.....Osceola

COMMITTEE ON MILITARY AFFAIRS

E. M. MacEwen, Chairman.....Iowa City
F. G. Murray.....Cedar Rapids
R. S. Shane.....Pilot Mound

WOMAN'S AUXILIARY ADVISORY COMMITTEE

C. B. Hickenlooper, Chairman..... Winterset
L. B. Amick.....Sac City
W. L. Alcorn.....Washington
B. A. Smillie.....Gilmore City
F. K. Burnett.....Clarinda

Dr. Fuller: I move that these appointments of committees recommended by the President be approved by the House.

The motion was carried.

Dr. Parker: Mr. President, I have a resolution I should like to introduce. Sometime ago the Board of Trustees of the American Medical Association drew up a resolution which they had sent to the President of the United States to the effect that if a reorganization of the governmental departments was to be effected, that the Department of Public Health should be made an independent department and not a subsidiary division of another, such as a Department of Public Welfare. *Be it hereby resolved* that the House of Delegates of the Iowa State Medical Society endorse this action of the Board of Trustees of the American Medical Association and be it further resolved that a copy of this resolution be sent to every member of Congress from Iowa.

The resolution was adopted.

Dr. Parker: Mr. President, I should like to introduce a proposed change in the constitution and by-laws concerning life membership. This will constitute the first reading and it will be ready for action at next year's meeting of the House of Delegates. I move that Article IV, Section 2 be amended to read: Any member of the Society who is in good standing may be entitled to life membership provided he has been recommended for such membership by his county society. They shall receive the transactions of the Society and enjoy all the privileges of members and may be exempted from the payment of annual dues upon the vote of the House of Delegates.

President Sawyer: The business of this session having been completed, I want to take this opportunity of thanking the House of Delegates for the courtesy which they have shown me during the past year. I certainly appreciate the honor which they conferred upon me and I hope that they have felt their confidence was not misplaced. There being no further business, this meeting of the House of Delegates will now stand adjourned.

The House of Delegates adjourned at 9:45 a. m.

(Continued from page 299)

5. Brill, N. E., and Rosenthal, Nathan: Treatment by splenectomy of essential thrombocytopenia; (purpura hemorrhagica). Arch. Int. Med., xxxii:939-953 (December) 1923.
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COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the JOURNAL office.

Southern Minnesota Medical Association, August 11, Winona, Minnesota.

Fifth International Congress of Radiology—September 13 to 17, Chicago.

American Congress of Physical Therapy, Sixteenth Annual Clinical and Scientific Session, September 20 to 24, Netherland Plaza Hotel, Cincinnati, Ohio.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

American Board of Ophthalmology will conduct examination in Chicago, October 9. All applications and case reports, in duplicate, must be filed at least sixty days before the date of examination.

Military Surgeons Convention—October 14 to 16, Los Angeles, California.

Omaha Mid-West Clinical Society, Fifth Annual Assembly, October 17 to 22, Hotel Paxton, Omaha, Nebraska.

New York Academy of Medicine, 1937, Annual Graduate Fortnight—November 1 to 12, New York.

American Association of Orthopedic Surgeons, Annual Meeting—January 15 to 19, 1938, Los Angeles, California.

American College of Physicians, Twenty-second Annual Session, April 4 to 8, 1938, New York City.

ROCKY MOUNTAIN SPOTTED FEVER

(Continued from page 301)

numbers in Des Moines are the same as those listed in the article on "Convalescent Poliomyelitis Serum," on page 301.

PREVALENCE OF DISEASE

	May '37	April '37	May '36	Most Cases Reported From
Diphtheria	16	21	17	Des Moines, Black Hawk
Scarlet Fever	695	1,123	674	Polk, Des Moines, Black Hawk
Typhoid Fever	2	7	12	Black Hawk, Keokuk
Smallpox	128	220	169	Wapello, Webster
Measles	21	42	25	Linn, Montgomery
Whooping Cough ...	153	128	34	Montgomery, Polk, Des Moines
Cerebrospinal				
Meningitis	0	1	3	(For State)
Chickenpox	173	154	235	Woodbury, Des Moines
Mumps	74	114	402	Woodbury
Influenza	11	59	36	Cedar
Poliomyelitis	0	1	1	(For State)
Tuberculosis				
(Pulmonary)	40	41	55	(For State)
Undulant Fever	17	12	9	(For State)
Gonorrhea	190	191	138	(For State)
Syphilis	329	341	117	(For State)

SOCIETY PROCEEDINGS

Black Hawk County

Philip A. Daly, M.D., of Chicago, was the speaker for the meeting of the Black Hawk County Medical Society, held in Waterloo, Tuesday, June 15. Dr. Daly spoke on The Thyroid Gland in Relation to Pregnancy.

Buchanan County

The Buchanan County Medical Society held its second quarterly meeting at the Wapsipinicon Golf Club in Independence, Thursday, June 17. Golf was played in the afternoon, and dinner was served at seven o'clock, followed by the scientific program. Three physicians from The Mayo Clinic, Rochester, Minnesota, presented a symposium on The Clinical, Gastroscopic and Roentgenologic Findings in Gastritis. Speakers were Andrew B. Rivers, M.D., Herman J. Moersch, M.D., and Byrl R. Kirklin, M.D.

Nelson L. Hersey, M.D., Secretary.

Johnson County

Wednesday, June 2, members of the Johnson County Medical Society met in regular session, at Youde's Inn, in Iowa City, and the following program was presented: Poisoning from Shoe Dye, Harry R. Jenkinson, M.D., discussion opened by W. F. Boiler, M.D., Rocky Mountain Spotted Fever, Mark L. Floyd, M.D., discussion opened by Irving H. Borts, M.D.

W. M. Fowler, M.D., Secretary.

Madison County

Henry C. Decker, M.D., of Des Moines, furnished the scientific program for the Madison County Medical Society at its meeting held at the home of Dr. I. K. Sayre in St. Charles, Monday June 14. Dr. Decker spoke on The Scope of Neurologic Surgery.

Marion County

The Marion County Medical Society met in Pella, Thursday, June 10, for a six-thirty dinner, after which the following program was presented: Modern Treatment of Syphilis, Clifford W. Losh, M.D., of Des Moines; Glandular Deficiency, H. E. White, M.D., of Knoxville; and a paper on Mastitis, written in 1884 by Frank Wright, M.D., read by his nephew, J. R. Wright, M.D.

J. R. Wright, M.D., Secretary.

Linn County

The final meeting of the Linn County Medical Society before the summer recess, was held in Cedar Rapids, Tuesday, June 29, with Harris Peyton Mosher, M.D., professor of otology and laryngology, Harvard University Medical School, Boston, Massa-

chusetts, as guest speaker. Dr. Mosher addressed the group on Modern Views of the Esophagus, and his paper was discussed by L. W. Dean, M.D., professor of otolaryngology, Washington University Medical School, St. Louis, Missouri. Additional features of the evening's program were the presentation of colored films on Diseases of the Larynx by Dean M. Lierle, M.D., of Iowa City, and Stereopticon Views of the Ear, by J. J. Potter, M.D., also of Iowa City.

Ringgold County

Members of the Ringgold County Medical Society and their wives enjoyed a seven o'clock dinner, Tuesday, June 29, at the Mt. Ayr Hotel in Mt. Ayr after which the following program was given: Chronic Ulcerative Colitis, Charles L. Seaman, M.D., of Mt. Ayr; Pneumonia, E. J. Watson, M.D., of Diagonal; and Ectopic Gestation, J. W. Hill, M.D., of Mt. Ayr.

J. W. Hill, M.D., Secretary.

Austin Flint Tri-District Medical Society

The first meeting of the combined Austin Flint-Cedar Valley Medical Society and the societies of the first, second and sixth districts of the Iowa State Medical Society, will be held Thursday, September 9, at the Cedar Valley Hospital in Charles City. The following program is scheduled to be presented:

- 10:30 a. m. The Indications and Use of Sulfanilamide (Prontosil), H. C. Habein, M.D., The Mayo Clinic, Rochester.
- 11:30 a. m. Convulsions in Childhood—Illustrated by motion pictures, M. G. Peterman, M.D., professor and director of the department of pediatrics, Marquette University School of Medicine, Milwaukee.
- 12:30 p. m. Luncheon
- 1:30 p. m. Business meeting—Election of officers.
- 2:00 p. m. Practical Endocrinology, Elmer L. Sevringhaus, M.D., associate professor of medicine, University of Wisconsin Medical School, Madison.
- 3:00 p. m. Address in Surgery, J. R. Buchbinder, M.D., associate professor of surgery, Northwestern University Medical School, Chicago.

Sixth Councilor District Meeting

A joint meeting of the Sixth Councilor District and the Hardin County Medical Society was held at the Eldora Country Club, Thursday, June 24. Members of the two organizations and their wives enjoyed an afternoon of golf, swimming, boating, fishing, bridge, etc. Deputy councilors and county society secretaries

held a conference from five-thirty to six-thirty, immediately preceding the dinner. The evening program featured an address by Edward M. Myers, M.D., of Boone, president of the Iowa State Medical Society.

Tri-County Medical Society

The Tri-County Medical Society, composed of physicians in Henry, Jefferson and Washington counties, held a meeting in Washington, Tuesday, June 29. Following a six-thirty dinner, the speaker of the evening, Carl L. Gillies, M.D., of Iowa City, addressed the group on Retrograde Pyelography, giving a review of 432 cases seen at the University Hospitals.

W. S. Kyle, M.D., Secretary,
Washington County Medical Society.

Upper Des Moines Medical Society

The summer meeting of the Upper Des Moines Medical Society will be held at the Inn on West Okoboji Lake, Thursday, August 5. Headed by Dr. George H. Keeney of Mallard, president, officers of the organization have prepared an all-day program, beginning at ten o'clock in the morning with a pediatric clinic, conducted by Julian D. Boyd, M.D., of the State University of Iowa, College of Medicine. Dr. Frank P. Winkler of Sibley has called a conference of county society officers of the third district to be held at eleven-thirty, immediately preceding the noon luncheon. The session will reconvene at one-thirty, at which time the following program is scheduled: Diseases of the Thyroid Gland in Children, Roger L. J. Kennedy, M.D., assistant professor of pediatrics, University of Minnesota Graduate School of Medicine, Rochester; Allergy as Seen in General Practice, Ralph Bowen, M.D., of the Balyeat Hay Fever and Asthma Clinic, Oklahoma City; Management of Rectal and Low Sigmoid Malignancies, F. R. Peterson, M.D., head of the department of surgery, State University of Iowa, College of Medicine; and Cardiovascular Syphilis; pathology, diagnosis and treatment, Fredrick A. Willius, M.D., associate professor of medicine, University of Minnesota Graduate School of Medicine, Rochester.

Dr. E. M. Myers of Boone, president of the Iowa State Medical Society, will preside as toastmaster during the six o'clock dinner, which closes the session, and will introduce the speaker of the evening, Dr. E. M. MacEwen, dean of the College of Medicine, State University of Iowa, Iowa City.

PERSONAL MENTION

Dr. Frank M. Fuller of Keokuk, has been reappointed by Governor N. G. Kraschel, as a member of the State Board of Medical Examiners, for a three-year period expiring June 30, 1940.

Dr. Harold W. Morgan of Mason City, addressed the Clear Lake Lions Club, at a noon luncheon, Wednesday, June 23, on "Fads, Facts and Fables."

Dr. William L. Randall, who for the past two years has been an instructor in medicine at the State University of Iowa, College of Medicine, is locating in Hampton, where he will be engaged in the private practice of medicine.

Dr. Jeannette Dean-Throckmorton of Des Moines, has received official notification of her reappointment as head of the Iowa State Medical Library, located in the Historical Building, Des Moines, Iowa.

Dr. Harry C. Parsons, after six years' practice in Iowa City, is locating in Grinnell. Dr. Parsons previously practiced for twenty-one years in Watertown, South Dakota.

Dr. Eugene M. Wiedenmann, formerly of Cherokee, has been appointed assistant superintendent of the Topeka State Hospital in Topeka, Kansas.

Dr. Raymond I. McGilvra, who was graduated in 1935 from Northwestern University School of Medicine, and completed his internship at Broadlawns Hospital in Des Moines, has located in Guthrie Center for the practice of medicine.

Dr. Lee Wallace Dean, professor of otolaryngology, Washington University School of Medicine, St. Louis, was presented with the gold medal of the American Laryngological Association, at its annual meeting in Atlantic City, June 1. Dr. Dean is a past president of the Iowa State Medical Society.

Dr. E. A. Benbrook, professor of pathology at the Iowa State College at Ames, has resigned from the State Board of Basic Science Examiners, and the governor has appointed Frank M. Smith, professor of zoology, Buena Vista College, Storm Lake, to complete the unexpired term.

DEATH NOTICES

Quinn, Charles Fuller, of Cherokee, aged seventy-eight, died June 8, following a short illness. He was graduated in 1896 from the Sioux City College of Medicine, and at the time of his death was a life member of the Cherokee County and Iowa State Medical Societies.

Rawson, Charles David, of Des Moines, aged eighty-five, died June 19, following an extended illness. He was graduated in 1880 from the Medical College of Ohio, Cincinnati, and at the time of his death was a life member of the Polk County and Iowa State Medical Societies.

Wagner, George Alexander, of Van Horne, aged fifty-nine, died suddenly June 5, following a heart attack. He was graduated in 1913 from the University of Illinois, College of Medicine, Chicago, and at the time of his death was a life member of the Benton County and Iowa State Medical Societies.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. MCCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

Physicians—Past and Present of Jasper County, Iowa

M. R. HAMMER, M.D., Newton, Iowa

Dr. Henry Rodgers of Pendleton, Indiana, was the first physician to practice medicine in Newton, Jasper County, Iowa. His grandson and namesake, from whom I obtained the following history, Henry Rodgers, lives near the airport east of Newton.

Dr. Henry Rodgers came to Newton in 1849. He died in 1855 and was buried in the cemetery north of Newton. He only practiced about six years but he has left a wonderful name as a doctor behind him. In those days there were no buggies and he rode horseback. Dr. Rodgers was recovering from a very severe attack of fever when some people in Rock Creek Township, east of Kellogg, came for him to go and see a very sick man there. As I said, they had no buggies, so the doctor had them fix up a bed in a wagon. He made this journey from Newton, about fourteen miles, in a wagon, visited the patient and returned home. The patient recovered—the doctor had a relapse and died. He was the most beloved doctor that ever practiced in Newton.

Dr. William Patton was born in Warren County, Ohio, in 1818, and was graduated at Cincinnati, Ohio. He practiced medicine in Rock Creek Township, Jasper County, from 1855 to 1862, when he died of cerebrospinal meningitis which he contracted while attending patients in Grinnell. I was a patient of Dr. Patton in 1859.

Dr. A. T. Ault came to Newton in 1855 and practiced here until 1862 when he enlisted in Com-

pany C, 22nd Infantry of Iowa Volunteers as Captain in the war between the states. He returned to Newton and then moved to Missouri, where he died.

Drs. Nealy and A. L. Gray were active practitioners in Newton in the early fifties. I was personally acquainted with Dr. Nealy's wife.

Dr. Hiram S. Parks was a pioneer physician in the early fifties in Poweshiek Township, Jasper County, Iowa, where he practiced until 1863, then moved to Kansas. He was the grandfather of Dr. Lewis C. S. Turner of Colfax.

Dr. B. M. Failor was born in Bucyrus, Ohio, February 21, 1831. He enlisted in the 19th Ohio Volunteer Infantry and had a horse shot from under him in the Battle of Stones River. He was Major and at the expiration of his term of enlistment, the men of the regiment presented him with a gold watch with his name engraved, as a token of kind-

ness for his services as a physician. He located in Newton in 1865, where he practiced until September 12, 1901, when he died from a wound received at the hand of a robber, when making a call. The robber took this watch before mentioned from the doctor's body.

Dr. E. A. Goodwin was born April 10, 1831, at Hallowell, Maine. He enlisted June 14, 1861, in Company F, 99th New York Volunteers, and was discharged July 2, 1864. He was graduated from the University of Michigan in 1871 and then from the Long Island Medical College. He came to

Editor's Note: In this issue we are beginning a series of biographic sketches of the physicians, past and present, who have practiced medicine at one time or another in Jasper County during the past eighty-eight years. It is fortunate that this interesting period of medical history in Iowa is recorded by one who has contributed in large measure to the progress of medicine in Jasper County from the days of the pioneer to the present.

Newton in 1873, practiced two years, then located at Baxter where he died October 18, 1910, and was buried there. He was a classmate of Dr. Perry Engle, both at the University and Long Island.

Dr. Henry E. Hunter was born in Carrolltown, Ohio, September 18, 1830. He came to Newton in 1854. After practicing a while in Newton he returned to Ohio and married Sarah A. Wilson, February 27, 1855. Dr. Perry Engle says, "Dr. Hunter was the soul of honor; brave, manly and just and at his death, June 20, 1902, was the oldest practicing physician in Jasper County." His pallbearers were Drs. S. Druett of Anamosa, Perry Engle, C. E. Boyd, E. F. Besser, C. C. Smead of Newton, T. H. Hendershot of Monroe and L. C. S. Turner of Colfax.

Dr. John S. Hunter came from Carrolltown, Ohio, in 1857, the father of Henry Hunter who came to Newton two years previous. When he arrived in Newton, Drs. Ault, Nealy, Hammer, Dinwiddie, Gray and others were in the active practice as well as his son, Henry. We will see later that he became the first president of the first Jasper County Medical Society. He died and was buried in the Newton Cemetery.

Dr. I. A. Hammer was born in Jefferson County, Tennessee, and came to Newton in 1864. Dr. Perry Engle says, "He was a man of marked ability, served as mayor of Newton two years, was Master of Newton Lodge four years. In 1872 he moved to Des Moines and was elected city clerk. In 1892 he moved to Chicago where he practiced medicine until his death which occurred January 1, 1900. He was a Methodist preacher as well as a doctor. He was a great uncle of Dr. Marion Hammer."

Dr. A. H. Buchanan was born at sea, January 1, 1830. He lived in Alabama three years. His parents brought him to Richland County, Ohio, when he was three years old, where he grew to manhood. He was graduated from Jefferson Medical College, Philadelphia, and practiced medicine at Bellville, Ohio, for twenty-five years. In 1876 he came to Newton, where he lived two years, then moved to Baxter, where he died April 3, 1911. He had two daughters, one of whom married George Hunter, only son of Dr. Henry E. Hunter.

Dr. William Bailey was born in Boston, England, on March 14, 1819, and died in Newton, July 25, 1907, in his eighty-eighth year. He was the son of Rev. William Bailey. He came to America at the age of ten, settled in New York state, and later moved to Ohio, where he grew to manhood. At the age of twenty-three he received his degree as Doctor of Medicine from the Lake Erie University of Columbus, Ohio. He practiced medicine for twenty-five years in Ohio and two years

in Newton, Iowa. He was a charter member of the Masonic Lodge of Baxter.

Dr. J. R. Gorrell was born near Warren, Trubull County, Ohio, May 6, 1835. He went to Wells County, Indiana, in 1845, and was graduated from the University of Buffalo, New York, in February, 1849. He opened an office at Newville, DeKalb County, Indiana, August, 1859, where he practiced until 1863. He enlisted in the 129th Indiana Volunteer Infantry as Regimental Surgeon. At the close of the war he came to Newton, Iowa, and practiced medicine until his death. He had three partners while practicing in Newton; first, Dr. C. E. Boyd; second, Dr. E. H. Robb, and third, Dr. E. F. Besser. Dr. Gorrell served as State Senator of Iowa, as did Drs. Perry Engle and J. W. Billingsley.

Dr. Lewis C. S. Turner was born in Jasper County, Iowa, November 2, 1854. His wife, Dr. Alice D. S. Turner, was born in Jasper County, Iowa, March 13, 1859. They practiced medicine for many years in Colfax, Iowa. They had a sanitarium called the "Rest Sanitarium," which they operated for many years. The sanitarium is now owned by Dr. R. Anspach. Dr. Lewis Turner was city physician for many years. They were very prominent in public affairs, both being very fine physicians. Dr. Alice was the first lady physician in Jasper County.

Dr. A. G. Gorrell was born in Indiana. He studied medicine with his brother, Dr. J. R. Gorrell, and practiced in Clyde, Jasper County, Iowa, for a while before returning to Ossian, Indiana. Cyrus Gorrell, brother of J. R. and A. G. Gorrell, also practiced medicine at Clyde, then moved to State Center and finally returned to his former home in Indiana.

The following alphabetical list of physicians has been compiled as accurately as possible from the facts available, and includes the names of all practitioners known to have been in Jasper County.

O. G. Adams practiced in Newton from about 1875 to about 1888. He had a machine to make compressed tablets. He had but one formula; consequently he had only one kind of medicine. He had a number of bottles filled with tablets but they were all alike, so if he gave the patient three boxes of medicine to be taken at different times, the boxes contained the same kind of medicine. He was very patriotic. He had his house painted red, white and blue. He remarked to a patient once that the stomach contained nineteen coats.

A. W. Adair, who practiced in Kellogg for more than forty years, moved to Des Moines, and died of cancer of the stomach.

William S. Adair, son of A. W. Adair, born in

Kellogg, practiced about thirty-five years and died there. He was graduated in 1881 from the State University of Iowa, College of Medicine.

E. D. Allen practiced in Monroe; died there.

W. E. Anspach practiced medicine in Colfax, moved to Chicago and has a very fine practice.

R. G. Anspach, Colfax, has a sanitarium and two or three hotels in Colfax; has been practicing medicine there for several years and is widely known.

C. J. Apline practiced at Monroe, moved to Cambridge, Iowa.

W. S. Balkema practiced medicine two years in Newton. He is now located at Sheldon, Iowa.

J. W. Beck, nephew of Dr. Adair, practiced in Kellogg before he moved to Des Moines, where he served several terms as coroner, and where he died.

J. G. Bidwell moved from Prairie City to parts unknown to the writer.

Lindley S. Blackledge left Newton in 1883 for California. He was killed in an automobile accident about eight or ten years ago.

W. H. Booth, after practicing in Newton, moved to Lebanon, Oregon, and died there.

F. E. Boyd has practiced in Colfax for about forty years. He was graduated in 1893 from the State University of Iowa, College of Medicine. Dr. Boyd is quite prominent in financial circles as well as in medical. He is of southern lineage, his father was born near Knoxville, Tennessee. He is a Mason.

C. E. Boyd, at one time a partner of Dr. J. R. Gorrell, practiced and died in Newton.

Dr. Briggs practiced in Killduff, but his present residence is unknown.

C. E. Broderick practiced in Newton for two or three years and moved to Cherokee, Iowa, where he is specializing in diseases of the eye, ear, nose and throat.

T. A. Burk practiced in Colfax; present address unknown.

E. F. Besser, practicing in Newton, was born in Harper, Iowa, in 1875. He was graduated in 1900 from the University of Illinois, College of Medicine. He has served on the commission of insanity for thirty-two years. The grandfather of E. F. Besser was a surgeon in the German army, and his son, Edward, is graduating this year from Johns Hopkins University School of Medicine.

John W. Billingsley was born in Lenexa, Kansas, in 1889. He received his medical degree in 1914 from the Western Reserve University School of Medicine, Cleveland, and began his practice at Monroe, Iowa, in 1915. Dr. Billingsley served in the army from 1917 to 1920, and located in Newton upon his return.

James M. Brown practiced in Newton and re-

moved to Nebraska. He was the son of Rev. T. F. Brown, and read medicine with Dr. Perry Engle.

Herbert W. Canfield is located in Baxter where he has been practicing for many years. He was graduated from Keokuk Medical College, College of Physicians and Surgeons, in 1903.

Frank Carpenter, who is practicing in Reasnor, was graduated from Drake University College of Medicine, Des Moines, Iowa, in 1904.

Fred E. Carpenter, son of Frank Carpenter, has been practicing for a number of years in Newton, specializing in diseases of the eye, ear, nose and throat.

Fred F. Carpenter, who practiced in Galesburg, was graduated from Drake University College of Medicine in 1897. He moved to Pella, where he is still in active practice.

J. L. Carpenter practiced and died in Galesburg. He was graduated in 1886 from Northwestern Medical College of St. Joseph, Missouri. He was president of the Jasper County Medical Society in 1896; the father of Frank Carpenter of Reasnor, Fred Carpenter of Pella, and O. O. Carpenter of Sully, and the grandfather of Fred E. Carpenter of Newton.

William B. Chase practiced in Prairie City after his graduation from the State University of Iowa, College of Medicine in 1902. He later moved to Des Moines, where he is now in practice.

J. B. Coor practiced in Monroe; present address unknown.

J. C. Corselius practiced at Galesburg for many years, then moved to Colfax and practiced for twenty years, where he died at the age of ninety-two years.

Oscar O. Carpenter received a degree in pharmacy from the Western Normal College at Shenandoah in 1891, and a medical degree from the Drake University College of Medicine in 1894. Dr. Carpenter has been practicing at Sully since 1900.

(To be continued)

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

(Concluded from page 305)

medical society meetings. Emphasis of the fact that no medical organization should use the term "district" unless it represents the actual district of the State Society. Emphasis of the importance of county society meetings and programs utilizing the members of the local society.

5. Adoption of motion to retain same personnel for membership of Speakers Bureau Committee, namely: L. C. Kern, Waverly; S. D. Maiden, Council Bluffs; Earl B. Bush, Ames; H. L. Brereton, Emmetsburg; and James Dunn, Davenport.

6. Adoption of motion to continue same personnel as Executive Committee of the Cancer Committee,

namely: F. P. McNamara, Chairman, Dubuque; A. W. Erskine, Cedar Rapids, and E. D. Plass, Iowa City.

7. Adjournment at 3:30 p. m.

**Meeting of the Executive Council
Hotel Fort Des Moines, Des Moines
June 29, 1937**

The Executive Council of the Iowa State Medical Society, which was created by the vote of the House of Delegates at its 1937 meeting, and given full power and authority of the House in the interim between meetings of the House of Delegates, met at the Hotel Fort Des Moines, Des Moines, on Tuesday, June 29, 1937, at 3:30 p. m.

Roll Call: Present—E. M. Myers, President; Robert L. Parker, Secretary; Felix A. Hennessy, L. R. Woodward, F. P. Winkler, J. E. Reeder, E. B. Bush, C. W. Ellyson, C. A. Boice, H. A. Spilman, J. G. Macrae, M. C. Hennessy, Councilors; Oliver J. Fay, John I. Marker and John C. Parsons, Trustees. Absent—A. W. Erskine, President-elect; Harold J. McCoy, Treasurer, and F. P. McNamara, Councilor. The Medical Economics Committee had been invited to meet with the Executive Council and the following members of that committee were present: T. F. Thornton, A. C. Moerke and James C. Hill.

Transactions: 1. Reading of a motion by the President which was passed by the House of Delegates in establishing the Executive Council.

2. Statement of reasons for calling a meeting of the Council. Demands from county medical societies wanting to know what further action had been taken regarding the medical program of the Iowa Emergency Relief Administration since the adoption by the House of Delegates of the recommendations of the Council and the Committee on Medical Economics that the Iowa State Medical Society refuse to co-operate with the medical relief set-up of the Iowa Emergency Relief Administration or the Rural Resettlement Administration until a satisfactory fee schedule could be agreed upon and an agreement reached that there should be no cuts from this schedule. The problem was referred to the Executive Council by the Medical Economics Committee.

3. Discussion of the need of some satisfactory settlement of this problem.

4. Emphatic agreement by the Executive Council that whenever possible the medical care of the indigent should be handled locally by agreement between the county medical society and the board of supervisors.

5. In view of the fact that some counties are unable to handle the problem locally, the Executive Council adopted the following motion to apply only in those counties which are forced to accept state or federal aid in the care of the indigent or near indigent. That it be the sense of the Executive Council that the Iowa State Medical Society contact representatives of the Iowa Emergency Relief Administration and the Rural Resettlement Administration, and recommend to them that the fee schedule to be employed in connection with the medical program

of these two agencies be that of the minimum fee schedule which was drawn up by the Medical Economics Committee of the Iowa State Medical Society in 1930.

6. Motion adopted that a copy of the foregoing action be sent to the Board of Trustees of the American Medical Association.

7. Discussion of the speech of Senator J. Hamilton Lewis, given before the House of Delegates of the American Medical Association at Atlantic City on June 10, 1937, in which he discussed pending amendments to the Social Security Act which affect the members of the medical profession.

8. Adoption of the following resolution:

"WHEREAS, in an address delivered on June 10, 1937, before the House of Delegates of the American Medical Association at Atlantic City, New Jersey, the Honorable J. Hamilton Lewis, United States Senator from Illinois, stated that there were now pending proposed amendments to the Social Security Act whereby all doctors would be subjected to examinations by a federal board and obligated to procure a license from the Federal Government before being permitted to engage in practice, and by virtue of provisions of proposed laws would be obliged to render medical service at any time to anyone, regardless of ability of such person to pay for such services, as federal officers who would be compensated through the medium of agencies of the social service and subject to the judgment of such agencies as to whether the fees, methods of payment and the quantity and quality of the treatment are fair or fraudulent; and

"WHEREAS, it is the understanding of the Executive Council of the Iowa State Medical Society from such address that such proposed legislation amounts to the regimentation of the medical profession under the control and domination of political agencies; and

"WHEREAS, it is the sense of the Executive Council of the Iowa State Medical Society that the results of such legislation would seriously impair the ability of individual doctors through the exercise of individual initiative to perform the best service to the sick and afflicted;

"Now, Therefore, Be It Resolved, that the Executive Council of the Iowa State Medical Society does vigorously protest and oppose the enactment and enforcement of any such legislation as referred to in the said address of Senator Lewis.

"Be It Further Resolved, that a copy of this resolution be sent to the Board of Trustees of the American Medical Association, to each of the members of the Iowa delegation in the Congress of the United States, and to the secretary of every county medical society in Iowa."

9. Motion passed authorizing the Medical Economics Committee to contact the official representatives of the Iowa Emergency Relief Administration and the Rural Resettlement Administration as provided in the motion pertaining to the medical program of those two agencies.

10. Adjournment at 5:00 p. m.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- THE CLINICAL USE OF DIGITALIS**—By Drew Luten, M.D., associate professor of clinical medicine, Washington University School of Medicine. Charles C. Thomas, Publisher, Springfield, Illinois, 1936. Price, \$3.50.
- THE DISEASES OF INFANTS AND CHILDREN**—By J. P. Crozer Griffith, M. D., emeritus professor of pediatrics, University of Pennsylvania; and A. Graeme Mitchell, M.D., professor of pediatrics, College of Medicine, University of Cincinnati. Second edition, revised and reset; 1153 pages with 293 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$10.00.
- DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN**—Edited by Robert L. Levy, M.D., professor of clinical medicine, College of Physicians and Surgeons, Columbia University. The Macmillan Company, New York, 1936. Price, \$6.00.
- ENDOCRINOLOGY: CLINICAL APPLICATION AND TREATMENT**—By August A. Werner, M.D., assistant professor of internal medicine, St. Louis University School of Medicine. Octavo of 672 pages, illustrated with 265 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.
- A HANDBOOK OF AMBULANT PROCTOLOGY**—By Charles Elton Blanchard, M.D., The Poland Study, Youngstown, Ohio. Medical Success Press, Youngstown, Ohio, 1937. Price, \$5.00.
- INTERNATIONAL CLINICS. Volume I. Forty-seventh Series**—Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia, 1937.
- THE 1936 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY**—Edited by Joseph B. DeLee, M.D., and J. P. Greenhill, M.D. The Year Book Publishers, Chicago, 1937. Price, \$2.50.
- AN INTRODUCTION TO MEDICAL SCIENCE**—By William Boyd, M.D., professor of pathology in the University of Manitoba. Octavo of 307 pages, illustrated with 108 engravings. Lea & Febiger, Philadelphia, 1937. Price, \$3.50.
- LIGHT THERAPY**—By Frank Hammond Krusen, M.D., associate professor of physical medicine, The Mayo Foundation, University of Minnesota. Second edition, revised and enlarged. Paul B. Hoeber, New York, 1937. Price, \$3.50.
- MATERIA MEDICA, TOXICOLOGY AND PHARMACOGNOSY**—By William Mansfield, A.M., Phar.D., dean and professor of materia medica and toxicology, Union University, Albany College of Pharmacy, Albany, New York. The C. V. Mosby Company, St. Louis, 1937. Price, \$6.75.
- OPERATIVE SURGERY**—By J. Shelton Horsley, M.D., attending surgeon, St. Elizabeth's Hospital, Richmond, Virginia; and Isaac A. Bigger, M.D., professor of surgery, Medical College of Virginia. In two volumes. C. V. Mosby Company, St. Louis, 1937. Price, \$15.00 per set.
- THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE**—By Charles H. Best, M.D., and Norman B. Taylor. William Wood & Company, Baltimore, 1937. Price, \$10.00.
- THE SOCIAL COMPONENT IN MEDICAL CARE**—A Study of one hundred cases from the Presbyterian Hospital in the city of New York. By Janet Thornton, director, Social Service Department. Columbia University Press, New York, 1937. Price, \$3.00.
- THE 1936 YEAR BOOK OF GENERAL THERAPEUTICS**—Edited by Bernard Fantus, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois College of Medicine. The Year Book Publishers, Chicago, 1937. Price, \$2.50.

BOOK REVIEWS

THE 1936 YEAR BOOK OF THE EYE, EAR, NOSE AND THROAT

Edited by E. V. L. Brown, M.D., Louis Bothman, M.D., George E. Shambaugh, M.D., Elmer Hagens, M.D., and George E. Shambaugh, Jr., M.D. The Year Book Publishers, Chicago, 1936. Price, \$2.50.

This volume consists of abstracts of the American and foreign literature covering the year of 1936.

In the section devoted to the eye, the articles in the main, are from foreign literature, and are complete enough to furnish the "gist" of the original publication. The section fails to contribute anything not available elsewhere in our ocular literature.

The section on the ear is very much worth reading. The terse comments of the editors appended to many of the abstracts constitute a distinct asset. The rôle of the round window as the causation of deafness is new and noteworthy.

Section three is devoted to the diseases of the nose and throat and adnexa. It is interesting to note that the American literature contains more of real value than does the foreign literature, such as the rôle of allergy, the present day conception of the management of acute, subacute and chronic nasal infections and chronic recurrent pharyngitis.

This book is of value because it abstracts foreign articles and those appearing in other medical journals not usually read by the practitioner who limits his practice to this specialty. C.C.J.

EXOPHTHALMIC GOITER AND ITS MEDICAL TREATMENT

By Israel Bram, M.D., director Bram Institute for the Treatment of Goiter and other diseases of the ductless glands, Upland, Pennsylvania. Second edition, completely revised and enlarged with 79 illustrations. C. V. Mosby Company, St. Louis, 1936. Price, \$6.00.

The subject matter of this book deals with the nonoperative treatment of Graves' diseases. The author speaks with authority, since for the past twenty-five years he has been intimately associated with the diagnosis and medical treatment of exophthalmic goiter, and gives voice to very definite and pronounced statements and opinions which are the result of his experience in this work. It is immediately apparent that Graves' disease has a sympathetic and understanding teacher who has been at great pains to observe and study every phase and angle of this serious and complicated malady. The point he makes at the outset is that Graves' disease is not goiter, or a disease of the thyroid gland, but rather a constitutional disease based in the nervous system. Like so many diseases of the nervous system which are hereditary, Graves' disease exhibits a strong tendency to familial transmission. As evidence of a nervous origin, he cites many cases which developed following strong nervous excitement or shock; death of a loved one; narrow escapes from serious injury; while practically all cases of exoph-

thalmic goiter are marked by a preponderance of nervous symptoms, restlessness, tachycardia, insomnia and weakness.

His outline of treatment takes into consideration practically everything that is useful in the physician's armamentarium, with the greatest emphasis being placed on rest, from both a physical and mental standpoint. Patients suffering from Graves' disease should be so situated that they are free from noise and disturbance of any kind. The mind as well as the physical system must be placed at rest, and annoying or irritating factors must be carefully excluded from the patient's consciousness. Drugs are not of great help, and with the exception of the occasional use of a simple tonic or a mild cathartic, or rarely a gentle hypnotic, drugs have not been used by this author. He feels that they are more or less unnecessary and that their effects can be obtained in other ways.

The subject has been handled exhaustively, and this volume seems to include all that is known today about Graves' disease. So sensibly and convincingly does the essayist present his conclusions and opinions that the reader feels he has a great deal to offer in the way of a solution for this still mysterious affliction.

F.R.H.

OPHTHALMOSCOPY, RETINOSCOPY AND REFRACTION

By W. A. Fisher, M.D., professor of ophthalmology, Chicago Eye, Ear, Nose and Throat College. Fourth revised edition; 210 pages with 240 illustrations including 24 colored plates. H. G. Adair Printing Company, Chicago, 1937. Price \$2.00.

This book is written for the general practitioner and its purpose is to acquaint him with the technic of using an ophthalmoscope as a part of his diagnostic armamentarium. The more common diseases of the retina, choroid, and optic nerve are illustrated by colored plates accompanied by descriptions which furnish a differential diagnosis of the more common conditions. One chapter is devoted to the elementary principles of refraction.

The book fulfills its purpose in this very limited field.

C. C. J.

DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN

Edited by Robert L. Levy, M.D., professor of clinical medicine, College of Physicians and Surgeons, Columbia University. The Macmillan Company, New York, 1936. Price, \$6.00.

This volume has been compiled by fourteen individuals and hence, with such a limited subject, there is some overlapping in the discussion. The volume consists of five parts which are preceded by an introduction and historical note. The historical note,

appropriately, is a discussion by Dr. James B. Herrick.

The first part of the book deals with the coronary circulation; the second part discusses the mechanism and physiology of cardiac pain; the third part presents the clinical features of coronary artery disease and cardiac pain; the fourth deals with the medical treatment; and the fifth with the surgical treatment.

Interest in this subject has greatly increased in the past few years. In this volume an attempt has been made to bring together all the important material on this subject. The clinical treatise is wisely preceded by an excellent discussion of the coronary circulation, the knowledge of which is essential for the intelligent management of these cases. The clinical discussions are concise and succinct and include most of the problems the physician is likely to encounter in caring for these patients. The volume can well be recommended for the general practitioner as well as for the specialist.

E.E.K.

THE THYROID AND ITS DISEASES

By J. H. Means, M.D., Jackson professor of clinical medicine, Harvard University. J. B. Lippincott Company, Philadelphia and London, 1937.

The opening lines of the preface of this book read: "While the present work is intended to be, in a measure, a textbook of the diseases, or disorders of the thyroid, it is in no sense an encyclopedic treatise on that subject. Rather it is an account of the personal experiences of a considerable group of workers in a single thyroid clinic and of the opinions and convictions derived from this experience. The clinic is that of the Massachusetts General Hospital, and the period of observation extends over more than two decades."

The volume begins with the anatomy, physiology and biochemistry of the normal gland, then recounts the interesting story of the search for the hormone and discusses the physiologic action of the hormone. This is followed by a chapter on the relation of the thyroid gland to its endocrine partners in which the author reveals most clearly his particular trend of thought; namely, that he is mindful at all times of the body as a unit, and that the interrelationship of its working parts must be understood for the sake of proper perspective. The pathology, symptomatology, diagnosis and treatment (medicinal and surgical) of all types of thyroid disorders are carefully and concisely discussed, and a summary and bibliography are included at the end of each chapter.

This book has an interesting style. Every chapter arouses the reader's scientific curiosity to know especially the pathogenesis and causation of these diseases, and it is to be highly recommended for a place in the library of every student of medicine; there is a wealth of information in it. It is the final result of many years of keen observation, clear and honest thinking, and hard work.

C. A. S.

THE 1936 YEAR BOOK OF NEUROLOGY, PSYCHIATRY AND ENDOCRINOLOGY

By Hans H. Reese, M.D., Harry A. Pas-kind, M.D., and Elmer L. Sevringhaus, M.D.
The Year Book Publishers, Chicago, 1937.
Price, \$3.00.

The 1936 Year Book of Neurology, Psychiatry and Endocrinology, consistent with previous editions, constitutes a concise and comprehensive review of the outstanding literary contributions pertaining to the subjects indicated in the title. Since each year gives birth and rebirth to an overwhelming volume of medical literature, this publication affords the reader a working knowledge of what is being considered and done in the various fields with which the book deals.

F. A. E.

A DIABETIC MANUAL

By Edward L. Bortz, M.D., associate professor of medicine, Graduate School of Medicine, University of Pennsylvania. Illustrated. F. A. Davis Company, Philadelphia, 1936.

Since diabetes is a chronic disease, the treatment of which requires the thorough cooperation of the patient, the education of the patient is paramount. This reviewer feels that the book written by Edward L. Bortz, with a foreword by George M. Piersol, is destined to occupy an important place in diabetic literature. The new protamine insulin is discussed in the manual, which was written primarily for patients under Dr. Bortz's care.

The small volume can be recommended unreservedly for the intelligent diabetic patient for his guidance and information.

E. B. W.

LIGHT THERAPY

By Frank Hammond Krusen, M.D., associate professor of physical medicine, The Mayo Foundation, University of Minnesota; Head of the Section on Physical Therapy, The Mayo Clinic. With 42 illustrations. Paul B. Hoeber, Inc., New York, 1937.

This book offers a very excellent review on the value of light therapy in various diseases. The author not only discusses the indications of light therapy but also the limitations and contraindications. His discussion on physics and physiology, sources of therapeutic light, and technic of application is done in a thorough, accurate and practical manner.

The other chapters consist of information on original articles written by outstanding authorities in the various specialties in which light therapy is beneficial. In the chapter on skin diseases, the names of the authors are recorded along with the alphabetical list of various dermatoses in which ultraviolet irradiation has been used, both with and without success. The

same type of recording is done in the chapters written on diseases of the circulatory system, diseases of the respiratory system, diseases of bones, joints, and muscles, diseases of the eye, ear, nose and throat, and diseases of the genito-urinary and gynecologic systems.

M. H. N.

SURGICAL PATHOLOGY OF THE THYROID GLAND

By Arthur E. Hertzler, M.D., professor of surgery, University of Kansas. J. B. Lippincott Company, Philadelphia and London, 1937.

This volume is a monograph which should have a place in the library of all doctors interested in diseases of the thyroid gland. It is a splendid treatise on the normal and abnormal conditions of this gland.

While the author does not feel that pathologic thyroid glands need a classification, he has, for the convenience of the reader, classified them into non-toxic diffuse, non-toxic nodular, toxic nodular, and toxic diffuse. He discusses each class in detail and then divides the changes of the various parts of the gland into:

1. Changes in the connective tissue
2. Changes in the epithelium
3. Changes in the colloid
4. Degenerative changes which affect the constitution.

Throughout the entire monograph are plates to aid the reader in visualizing the pathologic conditions under discussion. The author has had a great number of goiter cases in his clinic to study and one cannot help but be impressed with the intensive study given these cases and the deductions made by him. His conclusions as to the method of treatment might not be accepted by many other men with wide experience who treat goiters surgically. Hertzler is a bold advocate of total thyroidectomy in many cases, and especially after a patient has reached maturity. He feels that a pathologic gland should be removed in its entirety because, if removed subtotally, the part of the gland remaining will cause the same symptoms as did the portion which was removed.

He also feels quite strongly that myxedema seen after operation is not the result of the surgical removal of the thyroid gland, but that it would have occurred without the surgery. The chapter dealing with degenerative toxic conditions is especially good and extremely helpful as an aid in diagnosis where thyroid pathology is suspected.

It is probable that those reading the monograph will concur with most of the statements made by the author until he proposes the radical surgical treatment. Time alone will tell if his conclusions are correct. Either he is radical in his surgical management of pathologic conditions of the thyroid gland, or his knowledge of surgical treatment of the pathologic conditions is far in advance of that most commonly accepted.

L. D. P.

Membership Roster
of the
Iowa State Medical Society
1937



Members in Good Standing as of
July 1, 1937

- Abbott, Walter D., Des Moines
 Abegg, Henry H., Dougherty
 Acher, Albert E., Fort Dodge
 Acker, Wesley H., Waterloo
 Ackerman, Emma M., Sioux City
 Adair, Gael M., Anita
 Adams, Ernest M., Central City
 Adams, Glenn W., Royal
 Ady, Albert E., West Liberty
 Aeilts, Kerko S., Little Rock
 Agan, George M., Glenwood (L.M.)
 Agnew, Fred F., Independence
 Ahrens, Lewis H., Fontanelle
 Aid, Francis H., Burlington
 Albright, George C., Iowa City
 Aleock, Nathaniel G., Iowa City
 Alcorn, William L., Washington
 Alden, Oscar, Red Oak
 Aldrich, J. Frank, Shenandoah
 Allen, Edward D., Hampton
 Allen, James H., Iowa City
 Allison, Arthur L., Rodney
 Allison, Monroe P., Northwood
 Almqvist, Reuben E., Albert City
 Alton, Wilfred E., Fort Dodge
 Amdor, William F., Carbon
 Amesbury, Harry A., Clinton
 Amick, Louis B., Sac City
 Amie, Paul J., Tripoli
 Amos, Andrew R., Beverly Hills, Calif.
 (L.M.)
 Anderson, Albert A., Los Angeles, California (L.M.)
 Anderson, Edward W., Des Moines
 Anderson, George W., Early
 Anderson, Glenn J., Winterset
 Anderson, Guy B., Ackley
 Anderson, Harold N., Des Moines
 Anderson, Harry N., Woodbine
 Anderson, N. Boyd, Des Moines
 Anderson, Robert E., Chariton
 Anderson, Stanley N., Onawa
 Anderson, William E., Washington
 Angell, Charles A., Des Moines
 Anneberg, A. Reas, Carroll
 Anneberg, August R., Carroll
 Anneberg, Walter A., Carroll
 Anspach, Royal G., Colfax
 Anthony, Ernest J., Iowa City
 Anthony, Walter E., Ottumwa
 Armstrong, Max A., Newell
 Armstrong, Robert B., Ida Grove
 Armstrong, William B., Ames
 Arnold, Thomas, Primghar
 Aronson, Roland S., Iowa City
 Arthur, William R., Hampton
 Artis, George H., Cedar Rapids
 Aschenbrenner, Carl F., Pella
 Ash, William E., Council Bluffs
 Ashby, Atchison A., Sioux City (L.M.)
 Ashmore, Buell L., Des Moines
 Atchison, Mary M., Dubuque
 Atchley, Barney D., Ames
 Augustine, Grant, Council Bluffs
 Augustine, Jasper L., Ladora (L.M.)
 Auner, Jay F., Des Moines
 Ayers, Franklin D., Sabula*
 Bacon, Joshua E., Jr., Dubuque
 Bacon, Lyman B., Westboro, Mass. (L.M.)*
 Bailey, Arthur T., Clinton
 Bailey, Fred W., Cedar Rapids
 Bain, Clarence L., Corning
 Bairnson, George A., Cedar Falls
 Baker, Walter E., Des Moines
 Baldwin, Leon A., Riverton
 Balkema, Walter S., Sheldon
 Bannister, Murdoch, Ottumwa
 Banton, Oscar H., Charles City
 Barber, Oliver S., Creston
 Barbour, Howard W., Mason City
 Barer, Charles G., Iowa City
 Barfoot, Albert F., Decorah (L.M.)
 Barnes, Benj. S., Shenandoah
 Barnes, Bernard C., Des Moines
 Barnes, Elbert M., Gilman
 Barnes, Milford E., Iowa City
 Barnett, Reu L., Atlantic
 Barnett, Sylvester W., Cedar Falls
 Barr, Guy E., Sioux City
 Barrett, James W., Jr., Independence
 Barrett, Thomas M., Knoxville
 Bartlett, George E., New Sharon
 Barton, Edwin G., Ottumwa
 Barton, John C., Independence
 Bartruff, Charles H., Reinbeck
 Basinger, Byron L., Goldfield
 Bastron, Harold C., Red Oak
 Bates, Ernest G., Aurelia
 Bates, Maurice T., Des Moines
 Bates, William R., Fort Dodge
 Baumeister, Charles F., Avoca
 Beam, Watson W., Rolfe (L.M.)
 Beardsley, David E., Cedar Rapids
 Beardsley, Ralph W., Livermore
 Beatty, Alexander S., Creston
 Beatty, Edmund D., Mallard
 Beatty, Howard G., Creston
 Beauchamp, Joseph W., Bedford (L.M.)
 Beaumont, Fred H., Council Bluffs
 Becker, Royal A., Atlantic
 Beckman, Peter W., Perry
 Beddoes, Morris G., Cascade
 Beeh, Edward F., Fort Dodge
 Bees, Louis E., Bennett
 Behrens, George W., Eldridge
 Bell, Edward P., Pleasantville
 Bellingier, F. Earl, Council Bluffs
 Bender, Henry A., Waterloo
 Benfer, Merrill M., Davenport
 Bening, John F., Clarinda
 Bennett, Andrew W., Iowa City
 Bennett, Geoffrey W., Oskaloosa
 Benson, Otis O., Thornton
 Beppler, Paul H., Remsen
 Bergstrom, Albin C., Missouri Valley
 Berkstresser, Charles F., Sioux City
 Bernard, Ransom D., Clarion
 Besser, Edward F., Newton
 Bessmer, William G., Davenport
 Best, Gordon N., Council Bluffs
 Bettler, Philip L., Sioux City
 Beveridge, Thomas F., Muscatine (L.M.)
 Beyer, Arthur E., Guttenberg
 Bickert, Joseph N., Cedar Rapids
 Bickley, Carl C., Waterloo
 Bickley, G. G., Jr., Waterloo
 Bickley, William H., Waterloo
 Bierring, Walter L., Des Moines
 Biersborn, Byron M., State Center
 Bigelow, Charles T., Clinton
 Bild, Elmer J., Doon
 Billingsley, John W., Newton
 Binder, Frederick, Corning
 Binford, William S., Davenport
 Bird, Lee C., Boston, Mass.
 Bird, Raymond G., Clarion
 Birney, Cleanthus E., Estherville
 Bisgard, Carl V., Harlan
 Bisgard, James A., Harlan
 Bishop, Carl G., Ottumwa
 Black, Harold C., Des Moines
 Black, John R., Jefferson
 Blackstone, Martin A., Sioux City
 Blaess, Marvin J., Marshalltown
 Blair, Samuel E., Alford
 Bliss, Edwin C., Grinnell
 Block, Charles E., Davenport
 Block, Lawrence A., Davenport
 Blome, Glenn C., Ottumwa
 Blong, Theodore E., Stacyville
 Blunt, Arthur W., Clinton
 Blythe, Edward E., Riverside
 Blything, Jefferson D., Davenport
 Bockoven, William A., Cresco
 Boden, Herbert N., Truro
 Boe, Henry, Sioux City
 Boice, Clyde A., Washington
 Boice, James C., Washington (L.M.)
 Boiler, William F., Iowa City
 Bond, Thomas P., Des Moines (L.M.)
 Bond, Wilbert W., Des Moines
 Bone, Harold C., Des Moines
 Bonnell, Frank S., Fairfield
 Boody, George, Independence
 Borgen, Donald L., Gowrie
 Borre, Helge, Audubon
 Borts, Irving H., Iowa City
 Bos, Cornelius N., Oskaloosa
 Bosch, Calvin C. F., Melvin
 Boston, Burr C., Waterloo
 Bourne, Melvin G., Algona
 Bovenmyer, DeVoe O., Ottumwa
 Bowen, Frederick S., Woodburn
 Bowen, William W., Fort Dodge
 Bower, Edward L., Guthrie Center (L.M.)
 Bowers, Arthur S., Orient
 Bowers, Bert A., Sioux City
 Bowers, Henry W., Nevada
 Bowie, Cecil C., Carroll
 Bowie, Louis L., Zearing
 Bowman, Fred A., Leon (L.M.)
 Bowser, Will F., Davenport
 Boyd, Frank E., Colfax
 Boyd, Julian D., Iowa City
 Boyer, Edward H., Clinton
 Boyer, Howard C., Council Bluffs
 Boyer, Ulysses S., Davenport
 Brackney, Herman J., Sheldon
 Bradford, Clyde R., Des Moines
 Bradley, Carl L., Newhall
 Bradley, William E., Estherville
 Braley, Alson E., Iowa City
 Brandt, Glendor A., Palo
 Brannon, Patrick J., Denison
 Braunlich, George, Davenport
 Braunwarth, Emma L., Muscatine (L.M.)
 Breen, Adrian L., Independence
 Breniman, Eldridge M., Ackley
 Brereton, Harold L., Emmetsburg
 Bretthauer, Carl G., Holstein
 Bridge, Barton B., Albert City (L.M.)
 Bridgeman, Harry L., Knoxville
 Bries, Frank J., Holy Cross
 Brinker, Marion H., Yale
 Brinkhous, Kenneth M., Iowa City
 Brinkman, John E., Waterloo (L.M.)
 Brisbane, Royal E., Mason City
 Brittell, Chauncey L., Chariton
 Brock, Walter R., Sheldon
 Brockman, Helen, Independence
 Broderick, Clarence E., Cherokee
 Broghammer, Benjamin G., Cedar Rapids
 Brown, Arthur C., Council Bluffs
 Brown, Douglas H., Davenport
 Brown, Earnest L. W., Clarinda
 Brown, Gates M., Dayton
 Brown, George B., Clarion
 Brown, Harold L., Sioux City
 Brown, Harry W., Waterloo
 Brown, James C., Littleport
 Brown, Kenneth R., Osceola
 Brown, Samuel J., Panora (L.M.)
 Brown, Wayne B., Woodward
 Brown, William E., Cedar Rapids
 Brownson, John J., Dubuque
 Brubaker, John F. R., Hubbard
 Bruce, James H., Fort Dodge
 Bruechert, Henry N., Parkersburg
 Brumer, Herbert B., Clinton
 Brummit, Charles F., Centerville
 Bruner, Julian M., Des Moines
 Brunk, Amos W., Prescott
 Brunner, Walter J., Akron
 Brush, Milo O., Shenandoah
 Bryant, Alfred J., Montour
 Buchanan, Archibald R., Chicago, Ill.
 Buchanan, John J., Milford
 Budge, Ben G., Ames
 Bullock, Alfred H., Cushing
 Bullock, Alfred L., Quimby
 Bullock, Grant D., Washta
 Bullock, William E., Lake Park
 Bunch, Harold McK., Shenandoah
 Bucoa, F. Ward, Mulvane, Kansas
 Burbank, Dean S., Pleasantville
 Burbank, Frank E., Oxford
 Burcham, Thomas A., Des Moines
 Burger, Joseph M., Hampton
 Burgess, Floyd M., Des Moines
 Burgess, Arthur W., Iowa Falls
 Burgess, Jonathan A. W., Iowa Falls
 Burk, Frank O., Davenport
 Burke, Jerome C., Clinton
 Burke, Thomas A., Mason City
 Burke, Thomas J., Davenport
 Burnett, Francis K., Clarinda
 Burnside, Raymond A., Des Moines

- Bush, Earl B., Ames
 Butler, Margaret K., Fort Dodge
 Butler, Raleigh V., Fremont
 Butler, Ralph A., Clinton
 Butterfield, Edwin J., Dallas Center (L.M.)
 Butterfield, Rosabell A., Indianola
 Butts, John H., Waterloo
 Buzzard, Irenarch S., Jefferson (L.M.)
 Byers, Bert H., Manchester
 Byrnes, Allen W., Traer
 Byrnes, Clement W., Dunlap
 Byrnes, Victor W., Durant
 Bywater, William L., Iowa City
 Calbreath, Lloyd B., Humeston
 Call, Merlyn B., Greene
 Callahan, George D., Iowa City
 Campbell, Benjamin F., Burlington
 Campbell, Cassius L., Atlantic (L.M.)
 Campbell, Malcolm S., Quilcene, Wash.
 Campbell, Thomas R., Sioux Rapids
 Campbell, Walter V., Oskaloosa
 Canfield, Herbert W., Baxter
 Cantrell, Carmi M., Lone Tree
 Cantwell, John D., Davenport
 Carey, Michael J., Council Bluffs
 Carlisle, Amos W., Manning
 Carlson, Frank G., Mason City (L.M.)
 Carnazza, Sebastian A., Le Mars
 Carney, Roscoe P., Davenport
 Carney, Samuel D., Sioux City
 Carpenter, Lewis W. F., Reasnor
 Carpenter, Fred E., Newton
 Carpenter, Fred F., Pella
 Carpenter, Oscar O., Sully
 Carpenter, William S., Altoona
 Carr, Leslie L., Clermont
 Carryer, Carl H., Des Moines
 Carson, Andros, Des Moines (L.M.)
 Carstensen, Albert B., Linn Grove
 Cartwright, Forrest P., Grand Junction
 Carver, Harry E., Earlham
 Carver, William F., Fort Dodge
 Cary, Walter, Dubuque
 Casey, Joseph M., Fort Madison
 Castell, John W., Fairfield
 Catterson, Leroy F., Oskaloosa
 Caughlan, Gerald V., Council Bluffs
 Chadbourn, Theodore L., Vinton
 Chain, Leo W., Dedham
 Challed, Don S., Cedar Rapids
 Chamberlain, Lowell H., Des Moines
 Chambers, Charles L., Des Moines
 Chapler, Keith M., Dexter
 Chapman, Frederick J., Keokuk
 Chapman, Robert M., Cedar Rapids
 Charlton, Thomas B., Clinton
 Chase, Sumner B., Fort Dodge
 Chase, Walter E., Rippey
 Chase, William B., Jr., Des Moines
 Chase, William B., Sr., Des Moines
 Chenoweth, Charles E., Mason City
 Childs, Hal A., Creston (L.M.)
 Childs, Ratford F., Audubon
 Chilgren, Gustave A., Burlington
 Chilson, Alvin H., Plymouth
 Chisholm, Roderick B., Griswold
 Chittum, John H., Wapello
 Chittum, Josiah M., North Liberty
 Choate, Cora W., Marshalltown
 Christensen, Christen J., Jewell
 Christensen, John R., Eagle Grove
 Christy, Edgar, Hastings (L.M.)
 Clark, Carl G., Shenandoah
 Clark, Frank H., Clarinda
 Clark, George H., Oskaloosa
 Clark, Howard F., Stuart
 Clark, Orson W., Ogden
 Clark, Thomas D., Victor
 Clarke, James F., Fairfield (L.M.)
 Clarke, James P., Estherville
 Clary, William H., Prescott (L.M.)
 Clasen, Henry W., Denison
 Cleary, Hugh G., Fort Madison
 Clingan, Charles E., Sioux City (L.M.)
 Closson, Charles L., Walker
 Cmeyla, Patrick M., Sioux City
 Cobb, Edwin, Marshalltown
 Cobb, Elliott C., Sioux City
 Coddington, James K., Humboldt
 Cody, William E., Sioux City
 Coffin, Lonnie A., Farmington
 Cogley, John P., Council Bluffs
 Cole, Adalbert J., Clear Lake (L.M.)
 Cole, Elmer J., Woodbine
 Cole, Fern N., Iowa Falls
 Cole, Harold P., Thurman
 Cole, Julia, Ames
 Coleman, Jennie M., Des Moines (L.M.)
 Collester, Charles C., Spencer
 Collins, Harry A., Des Moines
 Collins, Robert M., Council Bluffs
 Conaway, Aaron C., Marshalltown
 Conney, Roy M., Sergeant Bluff
 Connell, John, Des Moines
 Connell, Walter J., Dubuque
 Connelly, Edgar J., Dubuque
 Conner, Frank H., Nevada
 Conzett, Donald C., Dubuque
 Cook, Clarence P., Des Moines
 Cook, John O., Madrid
 Cook, Kenneth G., Fairfield
 Cook, Walter R., Pisgah
 Cooley, Laurence E., Dubuque
 Coon, Lucy G., Champaign, Illinois
 Coontz, Jesse S., Leon (L.M.)*
 Cooper, Clark N., Waterloo
 Cooper, Gladys A., Red Oak
 Cooper, James S., Burlington
 Cooper, Jay C., Villisca
 Cooper, Raymond E., Keokuk
 Cooper, Thaddeus C., Ogden
 Corbin, Sylvanus W., Corydon
 Corcoran, Louis L., Rock Rapids
 Cornish, Corwin S., Knoxville
 Cornell, Dale D., Greenfield
 Corns, William, Marshalltown
 Costello, William E., Dubuque
 Coughlan, Daniel W., Des Moines
 Courshon, Benjamin, Sioux City
 Cowen, Joseph M., Glenwood
 Crabb, George M., Mason City
 Crabbe, Albert A., Traer (L.M.)
 Craig, James A., Keosauqua
 Craig, John W., Lohrville (L.M.)
 Crain, Lewis F., Deep River (L.M.)
 Crain, Mattie M., Deep River (L.M.)
 Crane, Wendell P., Holstein
 Crawford, Jennings, Cedar Rapids
 Cretzmeyer, Charles H., Algona
 Cretzmeyer, Francis X., Emmetsburg
 Crew, Arthur E., Marion
 Crew, Phillip I., Marion
 Cronk, Charles H., Bloomfield (L.M.)
 Cronk, Clara K., Bloomfield (L.M.)
 Crow, Ira N., Fairfield
 Crowder, Roy E., Sioux City
 Crowley, Daniel F., Des Moines
 Cruikshank, Roswell D., Goose Creek, Texas
 Crum, John R., Elberon
 Cruzen, John L., Barnes City
 Culbertson, Robert A., St. Ansgar
 Cullison, Robert M., Dike
 Cunningham, Melvin B., Stratford
 Cusick, George W., Princeton
 Cutler, Frank R., Cedar Falls
 Cutler, Roy H., Little Sioux
 Dahl, Harry W., Des Moines
 Dahlbo, John E., Sutherland
 Daily, Milton, Sioux City
 Dakin, Channing E., Mason City (L.M.)
 Dales, John A., Sioux City (L.M.)
 Daly, James J., Decorah
 Danley, Royal C., Hamburg
 Darrow, Clarence A., Springville
 Daut, Walter W., Muscatine
 Davidson, Lawrence L., Lake City
 Davidson, Thorald E., Mason City
 Davies, James E., Oxford Junction
 Davis, Arthur E., Seymour
 Davis, Samuel K., Libertyville (L.M.)
 Davison, Robert R., Winterset (L.M.)
 Dawson, Elmer B., Fort Dodge
 Day, Archie L., Winfield
 Day, Charles S., Cedar Rapids
 Day, Philip M., Oskaloosa
 Dean, Abbott M., Council Bluffs
 Dean, Frank W., Council Bluffs (L.M.)
 Dean, Ray H., Washington (L.M.)
 Dean, William F., Osceola
 De Bey, John G., Orange City
 De Cicco, Ralph, Des Moines
 Decker, George E., Davenport
 Decker, Henry G., Des Moines
 Decker, Herbert M., Bettendorf
 Decker, Jay C., Sioux City
 Deering, Albert B., Boone
 Deering, John S., Onawa
 De Long, Samuel W., Tingley
 Demarce, Chester, Delta
 Dennison, John C., Bellevue
 Denney, Benjamin F., Britt
 Denny, Thomas C., Des Moines (L.M.)
 De Pree, Seine B., Sioux Center
 De Shaw, Earl H., Monticello
 Desmond, Thomas F., Webster City
 Deur, Sherman J., Lake View
 Devereux, Richard L., Sioux City
 Dewees, Frank L., Keokuk
 Dewey, Jay R., Schaller
 Dewitt, Charles H., Jr., Macedonia
 Dewitt, Franklin T., Nemaha
 DeYoung, George M., George
 DeYoung, Ward A., Glenwood
 Dickey, Claude C., Des Moines
 Diddy, Keith W., Perry
 Dierker, Bernard J., Fort Madison
 Dierker, Frank H., Fort Madison
 Dimond, Dorothy S., Iowa City
 Dimsdale, Lewis J., Sioux City
 Dittmer, Ernest G., Manchester
 Dittmer, Henry A., Manchester
 Dittmer, Martin E., Colesburg
 Ditto, Boyd L., Burlington
 Dixon, George L., Tyrone, New Mexico
 Doane, Grace O., Des Moines
 Dobson, Richard H., Sioux City
 Doering, Valentine T., Fort Madison
 Dolan, Henry F., Anamosa
 Dolmage, George F., Buffalo Center
 Donahue, James C., Centerville
 Donelan, James M., Glenwood (L.M.)
 Donlan, Eugene V., Clinton
 Donnell, John W., Hazleton
 Donnelly, Madeline M., Mason City
 Donnelly, William L., Davenport
 Donohoe, Anthony P., Davenport
 Donovan, Michael J., Perry
 Donovan, William H., Iowa City
 Doolen, Glen W., Davenport
 Doolittle, Russell C., Des Moines
 Doornink, William, Orange City
 Dorsey, Frank B., Jr., Keokuk
 Dorsey, Frank B., Sr., Keokuk
 Dorsey, Thomas J., Fort Dodge
 Doss, William N., Garden Grove
 Down, Howard I., Sioux City
 Downing, James A., Des Moines
 Downing, Leroy M., Cedar Rapids
 Downing, Wendell L., Le Mars
 Downing, William L., Moulton
 Driver, Richard W., Waterloo
 Droz, A. Keith, Washington
 Dubrow, James L., Des Moines
 Duffin, Charles W., Gutenberg (L.M.)
 Duffy, J. James, Denison
 Dulin, Evelyn E. H., Sigourney
 Dulin, John A., Sigourney
 Dulin, John W., Iowa City
 Dulin, Tarana J. G., Sigourney
 Duling, Raymond J., Sioux City
 Dulmes, Abraham H., Klemme
 Dunkel, George K., Fairfield
 Dunkelberg, Elmer I., Waterloo
 Dunn, Francis C., Cedar Rapids
 Dunn, James, Davenport
 Dun Van, Edgar K., Chelsea
 Durrill, Everett L., Fort Madison
 Dusdieker, Stanley W., Valley Junction
 Dutton, Dean A., Van Horne
 Dvorak, Joseph E., Sioux City
 Dwyer, Robert E., Preston
 Dyson, James E., Des Moines
 Earl, David M., Iowa City
 Earl, Warren Z., Sioux City
 Eaton, Leslie F., Schaller
 Ebersole, Frances F., Mt. Vernon

- Edwards, Charles V., Council Bluffs
 Edwards, James P., Ames
 Edwards, Ralph R., Centerville
 Egan, Thomas J., Banerof
 Egbert, Daniel S., Atlantic
 Eggermayer, George W., Elliott
 Egleston, Alfred A., Burlington
 Egloff, William C., Mason City
 Eiel, Hans E., Buffalo Center (L.M.)
 Eiel, John O., Osage
 Eiel, Merrill O., Osage
 Eischeid, Rudolph J., Spechts Ferry
 Elliott, Olin A., Des Moines
 Elliott, William J., Dawson
 Ellison, George M., Clinton
 Ellyson, Charles W., Waterloo
 Ellyson, Craig D., Waterloo
 Elmer, Albert W., Davenport (L.M.)
 Elmquist, Homer S., Cambridge
 Elvidge, George P., Perry
 Ely, Francis A., Des Moines
 Emerson, Edward L., Muscatine
 Engle, Harry P., Newton
 Ennis, Harry H., Baxter
 Ensley, Bruce, Shell Rock
 Entringer, Albert J., Dubuque
 Entz, F. Harold, Waterloo
 Epeneter, Franz J., Denver
 Erskine, Arthur W., Cedar Rapids
 Evans, Harold J., Davenport
 Evans, John G., New Hartford (L.M.)
 Evans, Robert A., Algona
 Evans, William I., Iowa City
 Everall, Bruce B., Monona
 Eversmeyer, Benjamin E., Muscatine
 Everson, Gustave A., Rolfe
 Faber, Luke A., Dubuque
 Fair, Adam B., Ottumwa
 Fallows, Howard D., Mason City (L.M.)
 Farlow, Charles T., Farnhamville
 Farnham, Alfred J., Traer
 Farnsworth, Harold E., Storm Lake
 Farnum, Earl P., Sibley
 Faust, John H., Clarion
 Fay, Oliver J., Des Moines
 Fee, Knight E., Toledo
 Fegers, Robert H., Keokuk
 Feightner, Robert L., Fort Madison
 Feller, Alto E., Iowa City
 Fellows, Joseph G., Ames
 Fellows, Liberty E., Newton
 Felter, Allan G., Van Meter
 Fenlon, Leslie K., Clinton
 Fenton, Charles D., Bloomfield
 Ficke, Emil O., Davenport
 Field, George A., Des Moines
 Fields, Robert B., La Porte City
 Files, Edward H., Cedar Rapids
 Fillenwarth, Floyd H., Charles City
 Finch, Hiram C., Pulaski (L.M.)*
 Fisch, Roman J., Le Mars
 Fisher, William C., Williamson
 Fitzpatrick, Dennis F., Iowa City
 Flater, Norman C., Floyd
 Fleischman, Abraham G., Des Moines
 Fletcher, Fred W., Hartington, Neb.
 Flickinger, Roger R., Mason City
 Flocks, Rubin H., Iowa City
 Floersch, Eugene B., Council Bluffs
 Floyd, Mark L., Iowa City
 Fobes, Henry L., Auburn
 Foley, Fred C., Newell
 Foley, Walter E., Davenport
 Folkers, Leonard M., Iowa City
 Foltz, Eloise G., Perry
 Fordyce, Frank W., Des Moines
 Forsyth, Manley, Fremont
 Foster, Morgan J., Cedar Rapids
 Foster, Samuel T., Adel
 Foster, Warren H., Clinton
 Foster, Wayne J., Cedar Rapids
 Foulk, Frank E., Des Moines
 Fourt, Arthur S., Iowa City
 Fowler, Willis M., Iowa City
 Fox, Charles I., Pella
 Fox, Ray A., Charles City
 Franchere, Chetwynd M., Mason City
 Frank, Louis J., Sioux City
 Frank, Owen L., Maquoketa
 Franklin, George W., Jefferson
 Fransco, Peter P., Ruthven
 Frantz, Charles P., Burlington
 Fraser, Leonard E., Iowa Falls
 Fraser, Walter, Algona
 Frazier, James W., Honey Creek
 Frech, Raymond F., Newton
 French, Charles II., Cedar Rapids (L.M.)
 French, Royal F., Marshalltown
 French, Valiant D., Carson
 Fritchen, Arthur F., Decorah
 Fritschel, Godfrey C., Dubuque
 Fritz, Lafe H., Dubuque
 Fry, Jay W., Creston
 Fry, John L., Kalona
 Fuerste, Frederick, Dubuque
 Fuller, Frank M., Keokuk
 Fuller, Quintus C., Milford
 Fullerton, Oscar L., Redding (L.M.)
 Fulliam, Edmond B., Jr., Muscatine
 Furgerson, Lee B., Waterloo
 Gaard, Rasmus R., Radcliffe
 Gadd, Edson E., Des Moines
 Gaffey, James W., Cedar Rapids
 Galloway, Milton B., Webster City
 Galman, James J., Hospers
 Galvin, Joseph E., Fort Dodge*
 Galvin, Robert J., Oelwein
 Gambee, Eric J., Earlring
 Gamble, Robert A., Madrid
 Gamet, Elmo E., Lamoni
 Ganoe, James O., Ogden
 Gardner, Charles W., Mt. Pleasant (L.M.)
 Gardner, Harold O., Waterloo
 Gardner, John R., Lisbon
 Gardner, Paul E., New Hampton
 Garling, Luvern C., Manchester
 Garside, Arthur A., Davenport
 Gaukel, Leo A., Onawa
 Gaumer, James S., Fairfield
 Gearhart, George W., Springville
 Geeseka, Otto A., Mt. Pleasant (L.M.)
 George, Joseph, Dows
 Gerken, James F., Waterloo
 Gernsey, Merrit N., Waverly
 Gessner, Frederick W., Dysart
 Getty, Everett B., Primghar
 Gibbon, William H., Sioux City
 Gibbs, George M., Winfield
 Gibson, Chelsea D., Lake View
 Gibson, Douglas N., Des Moines
 Gibson, Paul E., Des Moines
 Gibson, Preston E., Davenport
 Gifford, Albert K., Cedar Rapids
 Gilbert, Alfred E., Nevada
 Giles, George C., Oakland
 Gilfillan, Bruce L., Keokuk
 Gilfillan, Earl E., Pulaski
 Gilfillan, George W., Bloomfield
 Gilfillan, Homer J., Cantril
 Gillespie, Hamilton S., Sioux City
 Gillett, Francis A., Oskaloosa
 Gillies, Carl L., Iowa City
 Gillmor, Benjamin F., Red Oak
 Gingles, Earl E., Onawa
 Gingles, William W., Castana
 Gittins, Thomas R., Sioux City
 Gittler, Ludwig, Fairfield
 Givens, Hezekiah F., West Bend
 Glann, Roy C., Bronson
 Glasscock, Thomas J., Hawarden
 Glesne, Orvin G., Sioux Rapids
 Glesne, Otto N., Fort Dodge
 Glew, Percival B., Dallas Center
 Gleysteen, Derk J., Alton
 Gloeckler, Bernhard B., Mt. Pleasant
 Glomset, Daniel J., Des Moines
 Glotfelty, James F., St. Cloud, Minn.
 Glynn, Charles E., Davenport
 Goenne, William C., Davenport
 Goggin, John G., Ossian
 Golden, Thomas V., Clarinda
 Goodenow, Sidney B., Colo
 Goodman, Jonathan N., Wauwatosa, Wis.
 Goodrich, Joseph A., Des Moines
 Gordon, Arnold M., Des Moines
 Gorrell, Ralph L., Clarion
 Gottlieb, Jacques S., Iowa City
 Gottsch, Erwin J., Shenandoah
 Gould, George R., Conrad
 Gould, Isaac L., Kellogg
 Gower, Walter E., Pocahontas
 Graber, Fred J., Stockport
 Graber, Harold E., Fairfield
 Grady, Edmund M., Portsmouth
 Graening, Charles H., Waverly (L.M.)
 Graham, George W., Collins
 Graham, James W., Sioux City
 Grant, Cecil C., Cedar Falls
 Grant, John G., Ames
 Grau, Amandus H., Denison
 Gray, Albert C., Keokuk
 Gray, Henry A., Keokuk
 Gray, Howard D., Des Moines
 Gray, Ralph E., Eldora
 Gray, Samuel T., Albia (L.M.)
 Grayston, Jesse T., Cedar Rapids
 Greek, Louis M., Adair
 Greene, James A., Iowa City
 Greenleaf, William S., Atlantic
 Greenlee, Max R., Oskaloosa
 Griffin, Clark C., Jr., Vinton (L.M.)
 Griffin, Frank L., Baldwin
 Griffin, John M., Des Moines
 Griffin, Sarah M., Manson
 Griffis, Arthur A., Tipton
 Grimm, Peter G., Spirit Lake
 Groman, August, Odebolt (L.M.)
 Groom, William S., Conway
 Grossman, Raymond S., Marshalltown
 Grothaus, Dell L., Delta
 Grove, Emil G., Boone
 Grubb, Merrill W., Galva
 Guldner, Ludwig F., Davenport
 Gunn, Ross E., Boone
 Gutch, Roy C., Chariton
 Hageboeck, Alphonse L., Davenport
 Hagedorn, Harry H., Sioux City
 Hagen, Edward F., Decorah
 Hahn, James P., Sioux City
 Haisch, Lily K., Dubuque
 Haisch, Otto E., Dubuque
 Hale, Albert E., Dougherty
 Hall, Bonnybel A., Maynard
 Hall, Chuley C., Maynard
 Halloran, William H., Audubon
 Hamilton, Ben C., Jr., Jefferson
 Hamilton, Ben C., Sr., Jefferson (L.M.)
 Hamilton, Cecil V., Garner
 Hamilton, Harriett S., Council Bluffs
 Hamilton, Henry H., Cedar Rapids
 Hamilton, John, Cedar Rapids
 Hamilton, William F., Marshalltown
 Hammer, Marion R., Newton (L.M.)
 Hamsa, William R., Iowa City
 Hamstreet, Wilbur F., Tiptonka
 Hanchett, W. McKicken, Council Bluffs
 Hancock, John C., Dubuque
 Hand, William C., Hartley
 Hands, Sidney G., Davenport
 Hankey, Daniel C., Council Bluffs
 Hanna, John T., Burlington
 Hansell, William, Ottumwa (L.M.)
 Hansell, William W., Des Moines
 Hansen, Fred A., Stanton
 Hansen, Niels M., Des Moines
 Hansen, Robert R., Marshalltown
 Hanske, Edward A., Bellevue
 Hanson, Edwin B., Edgewood
 Hanson, Frank H., Magnolia
 Hanson, Laurence C., Jefferson
 Hardin, John F., Bedford
 Hardwig, Oswald C., Waverly
 Harken, Conrad R., Osceola
 Harkness, Gordon F., Davenport
 Harlan, Charles D., Keswick
 Harman, Dean W., Glenwood
 Harnagel, Edward J., Des Moines
 Harp, John F., Prairie City (L.M.)
 Harpel, Kate S., Boone
 Harper, Edna K., Sexsmith, Greenfield
 Harper, James A., Greenfield
 Harriman, Walter F., Sioux City
 Harrington, Raymond J., Sioux City
 Harris, Clinton E., Grinnell
 Harris, Edwin E., Grinnell (L.M.)
 Harris, Grove W., Marshalltown
 Harris, Herbert H., Rockwell City

- Harrison, Glenn E., Mason City
Hart, William E., Odebolt
Hartje, Harry F., Adair
Hartley, Byron D., Mt. Pleasant
Hartley, George A., Battle Creek
Hartman, Frank T., Waterloo (L.M.)
Hartman, Howard J., Waterloo
Hasek, Victor H., Cedar Rapids
Hastings, John C., Elma
Hatch, Alice H., Des Moines
Haugen, Albert I., Ames
Haumeder, Hans, New Hampton
Haumeder, Marie E., New Hampton
Havlik, Aloysius J., Tama
Hawkins, Emmet L., Council Bluffs
Hawley, Olin B., Corning
Hay, William E., Avoca
Haymond, Harold E., Perry
Hayne, Willard W., Iowa City
Hazard, Charles M., Arlington
Hazard, Theodore L., Iowa City
Heady, Conda C. C., Bloomfield (L.M.)
Heald, Clarence L., Sigourney
Healy, Maurice A., Boone
Hearst, George E., Cedar Falls
Heathman, Frank E., Pocahontas
Heaton, Elbert E., Centerville
Hecker, Frederick A., Ottumwa
Hecker, John T., Cedar Rapids
Hedgecock, Lewis E., Hampton
Heeren, Ralph H., Iowa City
Heetland, Louis H., Sibley
Heffernan, Chauncey E., Sioux City
Heilman, Ernest S., Ida Grove (L.M.)
Heise, Carl A., Missouri Valley
Heles, John B., Dubuque
Henderson, Lauren J., Cedar Falls
Hendrickson, Alvin H., Sioux City
Henely, Edmund, Nora Springs
Henkin, John H., Sioux City
Henneger, William A., Dubuque
Hennes, Raphael J., Oxford
Hennessy, Felix A., Calmar
Hennessy, J. Donald, Council Bluffs
Hennessy, Maurice C., Council Bluffs
Henry, Clyde A., Farson
Henry, Hiram B., Des Moines
Herman, John C., Traer
Hermence, George E., Marshalltown
Hermesen, Paul J., Neola
Herny, Peter M., Prairie City
Herrick, Thomas B., Manson
Herrick, Thomas G., Gilmore City
Herrmann, Christian H., Jr., Amana
Herrmann, Walter W., Iowa City
Herron, David A., Alta
Hersch, Thomas F., Cedar Rapids
Hersey, Nelson L., Independence
Hesbacher, Edward N., Mt. Vernon
Hess, Howard R., Cedar Rapids
Hess, William C., Cresco
Heusinkveld, Henry J., Jr., Clinton
Hexom, John D., Decorah
Hibbe, Henry B., Dubuque
Hibbs, Fred V., Carroll
Hickenlooper, Carl V., Winterset
Hickman, Charles S., Centerville
Hicks, Wayland K., Sioux City
Hill, Chalmers A., Council Bluffs
Hill, Christine S. E., Council Bluffs
Hill, James C., Newton
Hill, James W., Mt. Ayr
Hill, Julia Ford, Pittsburgh, Pa.
Hill, Lee F., Des Moines
Hills, Henry M., Lamoni
Hills, Robert A., Russell
Hinchliff, James, Minburn
Hinrichs, Robert G., Manson
Hinshaw, Sylvester E., Newton
Hobart, Francis W., Lake City
Hoegen, Joseph A., Wyoming
Hoeven, Edward B., Ottumwa
Hoffman, Alfred A., Waterloo
Hoffman, Paul M., Tipton
Hofman, William P., Davenport
Hofstetter, George, Clinton (L.M.)
Hogle, William M., Keokuk
Hohenschuh, Frank A., Clinton*
Holbrook, Francis R., Des Moines
Hollis, Edward L., Marengo
Holm, Otto E., Holstein
Holman, David O., Nora Springs
Holman, Henry D., Mason City
Holmes, Wilson W., Keokuk
Holtey, Joseph W., Ossian
Hombach, Walter P., Council Bluffs
Hombach, William P., Council Bluffs
Hommel, Placido R. V., Elkader
Hooper, Lester E., Indianola
Hope, Frank G., Sioux City
Hopkins, David H., Glidden
Hornaday, William R., Des Moines
Horton, Vincent A., Calmar
Hosford, Horace F., Burlington
Hospodarsky, Leonard J., Ridgeway
Hotz, Edward J., Strawberry Point
Houghton, Fred W., Council Bluffs
Houghton, Henry S., Peiping, China
Houlahan, Jay E., Mason City
Houlihan, Francis W., Ackley
Houlihan, Thomas J., Ida Grove (L.M.)
Householder, Harold A., Winthrop
Houser, Cass T., Cedar Rapids
Houston, Bush, Nevada
Hovendon, John H., Laurens
Howard, Fred H., Strawberry Point
Howard, Lloyd G., Council Bluffs
Howe, James McP., Hillsboro
Howe, Lisle C., Muscatine
Howell, Chauncey W., Grinnell
Howell, Elias B., Ottumwa
Howland, Charles F., Des Moines
Hubbard, Francis A., Columbus Junction
Hudek, Joseph W., Garnavillo
Hudson, Jessie B., Sheffield
Hughes, Robert O., Ottumwa
Hull, Henry C., Jr., Washington (L.M.)
Hully, Henry D., Griswold
Hunt, Ernest A., Des Moines
Huntley, Charles C., Avoca
Huntton, Gardner A., Des Moines
Hurd, Charles A., Northwood
Hurevitz, Hyman M., Davenport
Huston, Daniel F., Burlington
Huston, Herbert M., Ruthven
Huston, Ross, Des Moines
Huston, Samuel W., Mt. Pleasant
Hyatt, Charles N., Jr., Humeston
Hyatt, Charles N., Sr., Albia (L.M.)
Hyndman, Olan R., Iowa City
Ihle, Charles W., Cleghorn
Ingham, Paul G., Mapleton
Ingraham, David R., Sewal
Irish, Thomas J., Forest City
Irwin, Charles E., Marshalltown
Isenberg, Bertice A., Lohrville
Ivins, Harry M., Cedar Rapids
Jackson, James M., Jefferson
Jacobsen, Robert A., Exira
Jaenicke, Kurt, Clinton
James, Audra D., Des Moines
James, David W., Kamrar
James, Lora D., Fairfield
James, Peter E., Elkhorn
James, Roger A., Allison
Jameson, Robert E., Davenport
Janse, Phillip V., Algona
Jarvis, Fred J., Jr., Iowa City
Jarvis, Fred J., Sr., Oskaloosa
Jarvis, Harry D., Chariton
Jay, Leon D., Waverly
Jeans, Philip C., Iowa City
Jeffries, Roy R., Waukon
Jenkins, George D., Burlington
Jenkinson, Ernest A., Sioux City (L.M.)
Jenkinson, Harry R., Iowa City
Jensen, Arnold L., Council Bluffs
Jensen, Arthur E., Humboldt
Jensen, LeRoy E., Audubon
Jepson, William, Sioux City (L.M.)
Jerdee, Ingebrecht C., Clermont
Jessup, Arthur E., Diagonal
Jessup, Parke M., Muscatine
Jinderlee, Joseph W., Cresco
Johann, Albert E., Des Moines
Johnson, Aaron Q., Sioux City
Johnson, Aldis A., Council Bluffs
Johnson, Albert P., Sigourney (L.M.)
Johnson, Cecil C., Le Claire*
Johnson, Chester H., Cherokee
Johnson, Frank D., Maquoketa
Johnson, George M., Marshalltown
Johnson, G. Raymond, Ottumwa
Johnson, Harvey A., Atlantic
Johnson, J. A. William, Newton
Johnson, Jonathan, Alden
Johnson, Mark E., Corning
Johnson, Robert J., Iowa Falls
Johnson, William A., Alden
Johnston, C. Harlan, Des Moines
Johnston, Florence D., Cedar Rapids
Johnston, Harry L., Ames
Johnston, Helen, Des Moines
Johnston, Howard H., Hampton
Johnston, Kenneth L., Oskaloosa
Johnston, Thomas H., Spencer
Johnston, Wayne A., Dubuque
Johnstone, Alexander A., Keokuk
Jones, Cecil C., Des Moines
Jones, Charles L., Gilmore City
Jones, Clare C., Spencer
Jones, Harry J., Cedar Rapids
Jones, Henry D., Schleswig
Jones, Jesse I., Manchester
Jones, Lewis H., Wall Lake
Jones, Mark C., Boone
Jones, Thomas S., Wauke
Jongewaard, Albert C., Jefferson
Jordan, Carl F., Des Moines
Jordan, John W., Maquoketa
Jowett, John R., Clinton
Joynt, Albert J., Waterloo
Joynt, Martin J., Le Mars
Joynt, Michael F., Marcus
Judd, Addison L., Kanawha (L.M.)
Junger, Emil C., Soldier
Kaack, Harry F., Clinton
Kadel, Merl A. S., Wellman
Kahler, Hugo V., Reinbeck
Kalar, Sara B., Ames
Kassmeyer, John C., Dubuque
Kast, Donald H., Des Moines
Katherman, Charles A., Sioux City
Kauffman, Edward C., Union
Kauffman, Ira D., State Center
Kauffman, William A., Marshalltown
Kauffman, Clold E., Burlington
Kaufman, Ernest L., Fort Atkinson
Keane, John L., Dyersville
Keech, Roy K., Cedar Rapids
Keefe, Frank M., Clinton
Keefe, Patrick E., Sioux City
Keen, Burlin E., Des Moines
Keeney, George H., Mallard
Keith, Wilfred K., Creston
Kelley, Edmund J., Des Moines
Kelley, Harry D., Council Bluffs
Kelley, Lawrence E., Des Moines
Kellogg, Orson A., Dows
Kelly, Dennis H., Des Moines
Kelly, James I., Burlington (L.M.)
Kendall, Guy M., Congon
Kenefick, John N., Algona
Kennedy, Charles S., Logan
Kennedy, Edwin P., Swaledale
Kennedy, Elizabeth S., Oelwein
Kennedy, William C., Somers
Kepner, Earl C., Waverly
Kern, Lester C., Waverly
Kerr, H. Dabney, Iowa City
Kerr, Johnston H., Akron
Kerr, William, Randolph
Kerr, William H., Hamburg
Kershner, Frank O., Clinton
Kersten, Ernest M., Fort Dodge
Kerwick, Joseph M., New Hampton
Kessell, George, Cresco (L.M.)
Kessler, John B., Cedar Rapids (L.M.)
Kestel, John L., Waterloo
Kettelkamp, Enoch G., Monona
Keyser, Ralph E., Marshalltown
Kieck, Ernest G., Cedar Rapids
Kiesau, Frederick W., Postville
Kiesau, Milton F., Postville
Kiesling, Harry F., Lehigh
Kilgore, Benjamin F., Des Moines

- Killeen, Mary A., Dubuque
 Kimball, John E., West Liberty
 King, Cecil V., Los Angeles, Calif.
 King, David H., Batavia
 King, Dean H., Spencer
 King, Harold N., Washington, D. C.
 King, Oran W., Des Moines
 King, Ross C., Clinton
 Kirch, Walter A. W., Des Moines
 Kirkegaard, Smith C., Ringsted
 Kitson, Walter W., Atlantic
 Klein, John L., Muscatine (L.M.)
 Kleinberg, Henry E., Des Moines
 Kline, Samuel, Sioux City
 Kluever, Herman C., Fort Dodge
 Knight, Benjamin L., Cedar Rapids
 Knight, Russell A., Rockford
 Knipe, James B., Armstrong
 Knipfer, Robert L., Jesup
 Knopf, Eugene J., Hubbard
 Knott, Peirce D., Sioux City
 Knott, Robert C., Sioux City
 Knowles, Fred L., Fort Dodge
 Knox, James McB., Cedar Rapids
 Knudsen, Hubert K., Clinton
 Kober, Augustus F., Charles City
 Koch, Fred E., Burlington
 Koch, George W., Sioux City (L.M.)
 Koeneman, Eugene O., Eldora
 Koob, William R., Brayton
 Koontz, Charles J., West Burlington
 Koontz, Lyle W., Vinton
 Korfmacher, Edwin S., Grinnell
 Kornder, Louis H., Davenport
 Korn, Horace M., Iowa City
 Kottke, Elmer E., Des Moines
 Koziol, Edward S., Danbury
 Krause, Charles S., Cedar Rapids
 Krejsa, Oldrich, Cedar Rapids
 Krepelka, George E., Stacyville
 Kreul, Dwight G., Davenport
 Kriebs, Frank J., Elkport (L.M.)
 Kriechbaum, Horace T., Davenport
 Kristgen, Joe M., Sioux City
 Kruse, Henry H. W., Rockford
 Kubela, Louis F., Chelsea
 Kuhl, Augustus B., Jr., Davenport
 Kuhl, Augustus B., Sr., Davenport
 Kuhn, Leo C., Decorah
 Kulp, Raymond R., Davenport
 Kunath, Carl A., Iowa City
 Kyle, William S., Washington
 Labagh, Nicholas W., Mystic
 La Dage, Leo H., Bettendorf
 Ladd, Fred G., Cedar Rapids
 La Force, Edward F., Burlington (L.M.)
 Laidley, Wallace G., Ogden
 Laird, John W., Mt. Pleasant
 Lall, Shiam, Des Moines
 Lamb, Frederick H., Davenport
 Lamb, Harry H., Davenport
 Lamb, Leslie, Lorimor
 Lambach, Frederick, Davenport (L.M.)
 Lampe, Elmer E., Bellevue
 Lande, Jacob N., Sioux City
 Landes, Frank H., Mt. Ayr
 Langan, Joseph C., Clinton
 Langford, William R., Epworth
 Langworthy, Henry G., Dubuque
 Lapsley, Robert McK., Keokuk
 Larimer, Robert N., Sioux City
 Larsen, Elmer A., Centerville
 Larsen, Harold T., Fort Dodge
 Larsen, William W., Le Mars
 Larson, Eloise M., Iowa City
 Larson, Lester E., Decorah
 Larson, Marvin O., Alton
 Lashbrook, Elam E., Estherville
 Laughlin, Frederick K., Fairfax
 Laughlin, Judson, Duncombe
 Launder, Frank T., Garwin
 Launder, Lloyd H., Marshalltown
 Lazere, Albert H., Sioux City
 Leader, Pauline M., Marengo
 Leahy, Paul E., Sioux City
 Lease, Nimrod J., Crawfordsville (L.M.)
 Lee, Frank W., Osage
 Lee, Gisle M., Thompson (L.M.)
 Lee, Harry P., Iowa City
 Leech, Louis J., West Branch (L.M.)
 Leche, Paul J., Independence
 Leffert, Frank B., Centerville
 Lehman, Emery W., Des Moines
 Leighton, Isaac W., Iowa City
 Leighton, Lewis L., Fort Dodge
 Leik, Donald W., Dubuque
 Leinbach, Samuel P., Belmond
 Leinfelder, Placidus J., Iowa City
 Leir, Charles N. O., Des Moines (L.M.)
 Leith, George G., Wilton Junction
 Lekwa, Alfred H., Story City
 Lenaghan, Robert T., Clinton
 Lenzmeier, Albert J., Davenport
 Leonard, Earl R., Lake Park
 Leonard, Frederick S., Dubuque
 Leserman, Lester K., Rolfe
 Lessenger, Ernest J., New London
 Lessenger, William S., Mt. Pleasant (L.M.)
 Levin, Harry M., Sioux City
 Lewis, William B., Webster City
 Lezotte, George D., Muscatine (L.M.)
 Lichter, Theodore W., Edgewood
 Lieberman, Nilton S., Monroe
 Lierle, Dean M., Iowa City
 Liken, John A., Villisca
 Lincoln, Simon E., Des Moines
 Lindeman, Erich H., Boston, Mass.
 Lindsay, Vernard T., Glidden
 Link, Martha A. M., Dubuque
 Linn, Ellis G., Des Moines
 Liska, Edward J., Ute
 Little, Luther W., Atkins
 Lloyd, John M., Washington
 Lock, Arthur L., Rock Rapids
 Lockhart, Harold A., Cedar Rapids
 Loeck, John F., Aurora
 Loes, Anthony M., Dubuque
 Lohman, Frederick H., Waterloo
 Lohmann, Carl J., Burlington
 Lohr, Oscar C., Churdan
 Lohr, Phillips E., Churdan
 Loizeaux, Charles E., Dubuque
 Lemas, Willis A., Villisca
 Long, Draper L., Mason City
 Long, William E., Mason City (L.M.)
 Longworth, Wallace H., Boone
 Loosbrock, John P., Lacona
 Loose, David N., Maquoketa (L.M.)
 Lorch, Alvin H., Iowa City
 Lorfeld, Gerhard W., Davenport
 Losh, Clifford W., Des Moines
 Lott, Guy A., Osage
 Lott, Robert H., Carroll
 Love, Francis L., Iowa City
 Lovejoy, E. Parish, Des Moines
 Lovelady, Ralph, Sidney
 Lovell, Harold W., Iowa City
 Lovett, Charles E., Lineville
 Lovett, Earl D., Vinton
 Loving, Luther W., Estherville
 Lowder, William, Maquoketa
 Luehrsmann, Bernard C., Dyersville
 Luehrsmann, Bernard H., Dyersville
 Luginbuhl, Christian B., Des Moines
 Luke, Edward, Coin
 Lundvick, Arthur W., Gowrie
 Luse, Ralph F., Clinton
 Lutton, John D., Sioux City
 Lynch, Robert J., Des Moines
 Lynn, Arthur R., Marshalltown
 Lynn, Clarence E., Dubuque
 Lyon, Morton, De Witt
 Lytle, Charles C., Dubuque
 MacEwen, Ewen M., Iowa City
 Mackie, Donald G., Charles City
 Mackin, M. Charles, Mt. Pleasant (L.M.)
 MacLeod, Hugh G., Greene
 Macrae, James G., Creston
 Madden, William D., Clinton
 Magarian, Sennacherib M., Des Moines
 Magee, Emery E., Waterloo
 Magoun, Charles E., Sioux City
 Mahin, Frank M., Ainsworth
 Maiden, Sydney D., Council Bluffs
 Malliard, Robert E., Storm Lake
 Malamud, William, Iowa City
 Maloney, Arthur P., Fonda
 Maloy, Wayland H., Shenandoah
 Mansfield, Jonathan M., Clinton
 Mantle, William B., Albion
 Mantz, Russell L., Cedar Rapids
 Maplethorpe, Charles W., Toledo
 Marble, Edwin J., Marshalltown
 Marble, Pearl L., Liscomb
 Marble, Willard P., Marshalltown
 Marek, Joseph E., Mason City
 Maresh, George, Iowa City
 Maris, Cornelius, Sanborn
 Maris, Gerrit, Hull
 Maris, William, Sioux Center
 Mark, Edward M., Manilla
 Marker, John I., Davenport
 Marling, Paul F., Gladbrook
 Marquis, Fred M., Waterloo
 Marquis, George S., Des Moines
 Marsh, William E., Eldora
 Marston, Charles L., Mason City
 Martin, George H., Eagle Grove
 Martin, Hobart E., Clinton
 Martin, John F., Latimer
 Martin, John W., Des Moines
 Martin, Loran M., Fort Dodge
 Martin, Roland F., Sioux City
 Martin, Sidney D., Carroll
 Masina, M. H., Iowa City
 Mason, Harry P., Wilton Junction
 Mason, Stella M., Mason City
 Masson, Hervey F., Washington
 Mast, Truman M., Washington
 Mathes, Dwight A., Iowa City
 Matheson, John H., Des Moines
 Mathias, John P., Mediapolis (L.M.)
 Mathiasen, Henning W., Persia
 Matthews, Damon G., Milton
 Matthews, Robert J., Clarinda
 Matthey, Karl H., Davenport
 Matthey, Walter A., Davenport
 Mattison, George, Jr., Akron
 Mauer, George A., Le Mars
 Mauritz, Emory L., Des Moines
 Maxwell, Charles T., Sioux City
 Maxwell, George B., Davenport
 Maxwell, John, What Cheer
 May, George A., Des Moines
 May, John A., Manchester
 Maynard, James H., Adair
 McAllister, James, Odebolt
 McAlvin, James G., Waterloo*
 McBride, James T., Des Moines
 McBride, Robert H., Sioux City
 McBurney, George F., Belmond
 McCall, John H., Allerton
 McCarl, J. Jay, Sac City
 McCarthy, Frank D., Sioux City
 McCartney, William H., Des Moines
 McCauliff, Guy T., Webster City
 McClean, Earl D., Des Moines
 McClintock, John T., Iowa City (L.M.)
 McClure, Ernest C., Bussey (L.M.)
 McClure, Gail A., Lawrence, Kan.
 McCurg, F. Haven, Fairfield
 McConkie, Edwin D., Cedar Rapids
 McConkie, Willis L., Carroll
 McConnaughey, James T., Mt. Pleasant
 McCoy, Harold J., Des Moines
 McCrary, Warren E., Lake City
 McCrea, Eppie S., Eddyville
 McCreedy, Murry L., Brighton
 McCreery, John W., Whitemore
 McCreight, George, Des Moines
 McCuiston, Harry McF., Sioux City
 McCullough, Gilbert F., Davenport
 McCutchan, Guy R., Council Bluffs
 McDannell, John, Nashua
 McDonald, Donald J., Des Moines
 McDonald, James E., Mason City (L.M.)
 McDowall, Gilbert T., Gladbrook
 McDowell, William O., Grundy Center
 McElderry, Donald, Ottumwa
 McEwen, Earle, Mason City (L.M.)
 McFarland, Guy E., Jr., Ames
 McFarland, Guy E., Sr., Ames
 McFarland, John, Centerville
 McFarland, Julian E., Leon
 McGowan, James P., Harlan
 McGrane, Merle J., New Hampton
 McGrath, William J., Elkader

- McGready, Joseph H., Independence (L.M.)
 McGuire, Clarence A., Dubuque
 McGuire, Roy A., Fairfield
 McHugh, Charles P., Sioux City
 McKean, Alexander C., Ladora
 McKee, Thomas L., Keokuk
 McKirahan, Josiah R., Wayland
 McKitterick, John C., Burlington
 McLaughlin, Charles W., Washington
 McLaughlin, Lucius E., Cedar Rapids
 McLean, Roy A., Fayette
 McMahon, George T., Waukee
 McMahon, Thomas, Garner (L.M.)
 McManus, Joseph P., Graettinger
 McManus, Thomas U., Waterloo (L.M.)
 McMeans, Thomas W., Davenport
 McMillan, Edwin C., Hudson
 McMurray, Edward A., Newton
 McNamara, Frank P., Dubuque
 McNamee, Jesse H., Des Moines
 McNaughton, Luther D., Eagle Grove
 McNeill, Benjamin F., Clutier
 McPherrin, Henry I., Des Moines
 McQuillen, Charles W., Charles City
 McQuiston, James S., Cedar Rapids
 McVay, Melvin J., Lake City
 Mead, Frank N., Cedar Falls (L.M.)
 Meany, John F., Rockwell
 Meents, Diedrich J., Fort Madison
 Meffert, Clyde B., Iowa City
 Meggers, Edward C., McGregor
 Mehler, Frank R., New London
 Melgaard, Bennett A., Sioux City
 Mellen, Robert G., Clinton
 Melrose, Maurice C., Independence
 Mengert, William F., Iowa City
 Mercer, Clifford D., West Union
 Meredith, Loren K., Des Moines
 Mereness, Herbert D., Dolliver
 Merkel, Arthur E., Ankeny
 Merkel, Byron M., Des Moines
 Merrick, John H. K., Cherokee
 Merrill, Charles H., Oskaloosa
 Merrill, Nelson, Marshalltown
 Merritt, Arthur M., Des Moines
 Mershon, Clinton E., Adel (L.M.)
 Meyer, Alfred K., Clinton
 Meyer, George R., Marshalltown (L.M.)
 Meyer, Milo G., Marshalltown
 Meyers, Frank W., Dubuque
 Meyers, Henry A., Davenport
 Middleton, George M., Davenport
 Miley, George P., Bala Cynwyd, Pa.
 Miller, Brownlow B., Tabor
 Miller, Bird H., Blockton (L.M.)
 Miller, Charles W., Preston
 Miller, Chester I., Iowa City
 Miller, Donald F., Williamsburg
 Miller, Enos D., Wellman
 Miller, Johannes J., Ackley
 Miller, Lawrence A., North English
 Miller, Oscar H., Estherville
 Miller, Temple M., Muscatine
 Millice, Glenn B., Battle Creek
 Mills, Ernest M., Le Grand
 Mills, Frank W., Ottumwa
 Minassian, Harootune A., Des Moines
 Minassian, Thaddeus A., Des Moines
 Miner, James B., Jr., Charles City
 Miner, James B., Sr., Charles City
 Minkel, Roger M., Swea City
 Missman, Walter F., Klemme
 Mitchell, Claire H., Indianola
 Moen, Harry P., West Union
 Moerke, Albert C., Burlington (L.M.)
 Moershel, Henry G., Homestead
 Moes, Matthew J., Dubuque
 Mol, Henry L., Grundy Center
 Montgomery, Earl C., Atlantic
 Montgomery, Edward S., Grant
 Montgomery, Guy E., Keota
 Moon, Barclay J., Cedar Rapids
 Moore, Daniel V., Sioux City
 Moore, Edwin A., Harlan
 Moore, Fred, Des Moines
 Moore, Gage C., Ottumwa
 Moore, Harold H., Ottumwa
 Moore, Harris C., Martelle
 Moore, Jesse C., Eldon
 Moore, John H., Liberty Center
 Moore, Morris, Walnut
 Moore, Pauline V., Solon
 Moore, Walter N., West Branch
 Moorehead, Giles C., Ida Grove (L.M.)
 Moorehead, Harold B., Underwood
 Moran, Thomas A., Melrose
 Morden, Richard P., Des Moines
 Morden, Roy R., Des Moines
 Morgan, Earl E., Sioux City
 Morgan, Fred B., Clinton
 Morgan, Harold W., Mason City
 Morgenthaler, Otis P., Templeton
 Morris, Zenella N., Stockport
 Morrison, Carl V., Garwin
 Morrison, Edward D., Fort Dodge
 Morrison, John W., Alta
 Morrison, Orry C., Carroll
 Morrison, Roland B., Carroll
 Morrison, Wesley J., Cedar Rapids
 Morse, Charles H., Eagle Grove (L.M.)
 Morton, Matthew T., Estherville
 Moskovitz, Julius M., Council Bluffs
 Moth, Robert S., Council Bluffs
 Mott, William H., Farmington
 Moulton, Milo W., Bellevue
 Mountain, Elmer B., Des Moines
 Mueller, Byron I., St. Charles
 Mueller, Emil F., Dyersville
 Mueller, James A., Fenton
 Muench, Virgil O., Nichols
 Muggly, Joseph A., Norway
 Muhs, Emil O., Muscatine
 Mullman, Arnold J., Adel
 Mulsow, Frederick W., Cedar Rapids
 Mumma, Claude S., Des Moines
 Munden, Ralph E., Cedar Rapids
 Munger, Elbert E., Jr., Spencer
 Munger, Elbert E., Sr., Spencer
 Murchison, Kenneth, Sidney
 Murphey, Arlo L., Fredericksburg
 Murphy, Cornelius B., Alton
 Murphy, George C., Waterloo
 Murphy, Joseph J., Cedar Rapids
 Murray, Frederick G., Cedar Rapids
 Myers, Edward M., Boone
 Myers, Kermit W., Sheldon
 Myers, Lynn L., Sheldon
 Myers, Valentine J., Mondamin
 Naae, Thorlief T., Graettinger
 Naftzger, Jesse B., Sioux City
 Natale, Pasquale F., Ankeny
 Neal, Emma J., Cedar Rapids
 Nederhiser, Morgan I., Cascade
 Needles, Roscoe M., Anita
 Negus, Cora W., Keswick
 Nelson, Arnold L., Winterset
 Nelson, Carroll C., Red Oak
 Nelson, Caryl L., Waterloo
 Nelson, Fred L., Ottumwa
 Nelson, Harry E., Dayton
 Nelson, Ira D., Toledo
 Nelson, Leo C., Des Moines
 Nelson, Paul O., Ayrshire
 Nelson, Robert J., Clinton
 Nervig, Isaac E., Sioux City
 Nesler, Alfred B., Dubuque
 Netolicky, Joseph Y., Solon
 Netolicky, Robert Y., Cedar Rapids
 Netolicky, Wesley J., Cedar Rapids
 Neu, Harold N., Sac City
 Neufeld, Frank, Davenport
 Neuzil, William J., Cedar Rapids
 Newell, William C., Ottumwa
 Newland, Don H., Belle Plaine
 Newland, Elmer R., Drakesville
 Newland, Mark A., Center Point
 Newman, Erwin W., Iowa City
 Newton, Dennis L., Fort Madison
 Niblock, George F., Derby
 Nicholson, Clyde G., Spirit Lake
 Nicoll, Charles A., Panora
 Nicoll, David T., Mitchellville
 Nielsen, Rudolph F., Cedar Falls
 Nielson, Arthur L., Harlan
 Noble, Earl H., Clemons
 Noble, Frederick W., Fort Madison
 Noble, Harold F., Fort Madison
 Noble, Lloyd E., Rhodes
 Noble, Nelle S., Des Moines
 Noble, Rusl P., Cherokee
 Noe, Carl A., Amana
 Noe, Charles F., Amana (L.M.)
 Nomland, Ruben, Iowa City
 Noonan, James J., Marshalltown
 Norman, Edith E., Peotone, Ill.
 North, Frank R., Winfield
 Norton, Alva C., Rockwell City (L.M.)
 Norton, William S., Muscatine
 Noun, Maurice H., Des Moines
 Nourse, Leslie M., Des Moines
 Nowak, Edward C., New Hampton
 Null, Frederick F., Hawarden
 Nyquist, David M., Eldora
 Nysewander, Christian, Des Moines (L.M.)
 Ober, Frank G., Burlington
 Obermann, Charles F., Cherokee
 O'Brien, Cecil S., Iowa City
 O'Brien, Stephen A., Mason City
 Odell, Isaac H., Des Moines
 O'Donoghue, Arch F., Sioux City
 O'Donoghue, James H., Storm Lake
 Oelrich, Carl D., Sioux Center
 Oggel, Herman D., Maurice
 O'Keefe, John E., Waterloo (L.M.)
 O'Keefe, Matthew E., Council Bluffs
 O'Keefe, Paul T., Waterloo
 Oldag, George C., Paulina
 O'Leary, Francis B., George
 Oliver, Arthur J., Muscatine (L.M.)
 Olsen, Martin I., Des Moines
 Olson, Evelyn M., Winterset
 Olson, Russell L., Northwood
 Osborn, James W., La Feria, Texas (L.M.)*
 Osborn, C. Robert, Dexter
 Osnes, Elias N., Readlyn
 O'Toole, Laurence C., Le Mars
 O'Toole, Thomas J., Eagle Grove
 Ott, Martin D., Davenport
 Otto, Paul, Fort Dodge
 Overton, Lewis M., Des Moines
 Owen, William E., Cedar Rapids
 Pace, Arthur A., Toledo (L.M.)
 Padgham, James B., Ocheyedan
 Padgham, John T., Grinnell
 Page, Addison C., Des Moines
 Pagelson, Otto H., Iowa Falls
 Pahlas, Henry M., Dubuque
 Paige, Ralph T., La Porte City
 Painter, Jesse C., Dubuque
 Paisley, Alfred M., Keokuk
 Palmer, Carson W., Guttenberg
 Palmer, George B., Rolfe
 Paragas, Modesto R., Creston
 Parish, John R., Grinnell
 Parish, Ora F., Grinnell (L.M.)
 Park, Elmer R., Sioux City
 Parker, Bernard B., Centerville
 Parker, Edward S., Ida Grove
 Parker, James D., Fayette
 Parker, Robert L., Des Moines
 Parker, William W., Floris
 Parriott, Robert P., Des Moines
 Parry, Roy E., Scranton
 Parsons, Harry C., Iowa City
 Parsons, Irving U., Malvern (L.M.)
 Parsons, John C., Des Moines
 Parsons, Percival L., Traer
 Paschal, George A., Williams
 Pascoe, Paul L., Carroll
 Patchin, Horace J., Maxwell
 Patterson, Alpheus W., Fonda
 Patterson, James C., Marengo
 Patterson, John N., Burlington (L.M.)
 Patterson, Roy A., Webster City
 Pattison, Arthur C., Fresno, Calif.
 Paul, John D., Anamosa
 Paulsen, Herbert B., Harris
 Paulsen, Edward W., Iowa City
 Pearson, William W., Des Moines
 Peart, John C., Dixon
 Pease, Herbert W., Blairsburg
 Peasley, Harold R., Des Moines
 Peck, John H., Oakdale
 Peck, Raymond E., Davenport
 Peck, Levin H., Cherokee
 Penquite, Harry H., Massena
 Peoples, Horace R., Burlington

- Peppers, Austin W., Oakville
 Perkins, Franklyn C., Hedrick
 Perkins, Rolla W., Sioux City
 Perley, Arthur E., Waterloo
 Pershing, Frank O., Keota
 Peschau, Waldo E., Cedar Rapids
 Peters, Fletcher E., Defiance
 Peters, Richard A., Tipton
 Peterson, Emil C., Atlantic
 Petersen, Millard T., Atlantic
 Peterson, August J., Forest City
 Peterson, Evan A., Burlington
 Peterson, Frank R., Iowa City
 Peterson, Ray W., Clear Lake
 Peterson, Vernon W., Iowa City
 Petrovitsky, John C., Cedar Rapids
 Petty, Wallace S., Sioux City
 Pfaff, Richard O., Des Moines
 Pfeiffer, Ernst, Hartley
 Pfeiffer, Harry E., Cedar Rapids
 Pfohl, Anthony C., Dubuque
 Phelps, Myron, Van Wert
 Phillips, Albion B., Clear Lake (L.M.)
 Phillips, Clarence P., Muscatine
 Phillips, Isaac H., Missouri Valley
 Phillips, Jesse H., Montezuma (L.M.)
 Phillips, Norman W., Clear Lake (L.M.)
 Phillips, Walter B., Davenport
 Pickard, John C., Dubuque
 Pickenbrock, Frank J., Dubuque
 Piercy, Kenneth C., Maxwell
 Pierson, Lawrence E., Sioux City
 Plankers, Arthur G., Dubuque
 Plant, Oscar H., Iowa City
 Plass, Everett D., Iowa City
 Plummer, George A., Cresco
 Plummer, Herbert W., Lime Springs
 Poepsel, Frank L., West Point
 Pollock, Roscoe, Douds-Leando
 Porath, William C., Storm Lake
 Porstmann, Louis J., Davenport
 Porter, Robert J., Des Moines
 Porter, Samuel D., Grinnell
 Porterfield, Frank W., Waterloo
 Posner, Edward R., Des Moines
 Potter, Jacob J., Iowa City
 Potter, William, Galt
 Powell, Burke, Albia (L.M.)
 Powell, Lester D., Des Moines
 Powell, Robert A., Villisca
 Powell, Velura E., Red Oak
 Powers, Francis E., Boone
 Powers, Fred W., Waterloo (L.M.)
 Powers, Henry R., Emmetsburg
 Powers, Ivan R., Waterloo
 Powers, Joseph C., Hampton
 Preece, Wade O., Waterloo
 Prentice, George L., Packwood
 Presnell, J. William, Scranton
 Presnell, William H., Charlotte
 Prettyman, Oscar R., Manson
 Prewitt, Leland H., Ottumwa
 Price, Alfred S., Des Moines
 Priessman, Frank A., Keokuk
 Priestley, Joseph B., Des Moines
 Pringle, Jesse A., Bagley (L.M.)
 Proctor, Rothwell D., Cedar Rapids
 Prouty, James V., Cedar Rapids
 Purcell, Bert E., Iowa Falls
 Purdy, William O., Des Moines
 Putnam, Chester L., Holstein
 Quinn, Charles F., Cherokee (L.M.)*
 Quinn, Francis P., Dubuque
 Quire, Frank E., Lynnville
 Ralston, Furman P., Knoxville
 Rambo, Cyrus C., Creston
 Rambo, David T., Ottumwa
 Rambo, Eli F., Webster City
 Randall, John H., Iowa City
 Rankin, Isom A., Iowa City
 Rankin, John R., Keokuk
 Rankin, William, Keokuk
 Ransom, Harry E., Des Moines
 Rater, David L., Ottumwa
 Rathe, Herbert W., Waverly
 Ravitts, Joseph L., Montezuma
 Raw, Elmer J., Pierson
 Rawson, Charles D., Des Moines (L.M.)*
 Redmond, Thomas M., Monticello
 Redmond, William H., Cedar Rapids
 Reed, Andrew I., Estherville
 Reed, Charles S., Agency
 Reed, Guy P., Davis City (L.M.)
 Reed, Lloyd T., Gravity
 Reed, Paul A., Iowa City
 Reed, Purl E., Council Bluffs
 Reed, Roe B., Clearfield
 Reeder, James E., Sioux City
 Reiley, William S., Red Oak
 Reimers, Robert S., Fort Madison
 Reinicke, Edward L., Dubuque
 Reinsch, Frank, Ashton
 Render, Norman D., Clarinda
 Rendleman, William H., Davenport
 Reuber, Roy N., Mason City
 Reuling, Frank H., Waterloo
 Reutter, Garfield A., Blanchard
 Reynolds, Albert C., Mingo
 Reynolds, Earl O., Greenfield
 Rice, Alfred G., Tipton
 Rice, Floyd W., Des Moines
 Richards, Frank O., Winterset
 Richardson, Leon F., Collins
 Richmond, Arthur C., Fort Madison
 Richmond, Frank R., Fort Madison
 Richmond, Paul C., New Hampton
 Ridenour, Joseph E., Waterloo
 Riggert, Leonard O., Clinton
 Riley, John, Exira (L.M.)
 Rimel, George W., Bedford
 Ringena, Engelke J., Brooklyn
 Rinker, George E., Oto
 Ristine, James O., Maquoketa
 Ritchey, Sterling J., Newton
 Ritter, John F., Maquoketa
 Roark, George L., Tabor
 Robb, James B., Chariton
 Robbins, Jesse H., Sioux City
 Roberts, Brockway D., Wayland
 Roberts, F. LeRoy, Spirit Lake
 Roberts, Francis M., Knoxville
 Robertson, Andrew A., Council Bluffs
 Robinson, John B., Mt. Vernon (L.M.)
 Robinson, Robert E., Waverly
 Rock, John E., Davenport
 Rodawig, Donald F., Spirit Lake
 Rodemeyer, Frederick H., Sheffield
 Roder, Carl F., Dumont
 Rodgers, Lewis A., Oskaloosa
 Roe, Cullen B., Afton
 Rogers, Claude B., Earlville
 Rogers, Marion W., Leon
 Rohlf, Edward L., Waterloo (L.M.)
 Rohlf, William A., Waverly (L.M.)
 Rohner, Frank J., Iowa City
 Rohrbacher, William M., Iowa City
 Rominger, Clark W., Waukon
 Roost, Frederick H., Sioux City
 Rose, Alvin A., Story City
 Rose, Joseph E., Grundy Center
 Rosebrook, Lee E., Ames
 Rosenblatt, Louis M., St. Paul, Minn.
 Rosenthal, Nana L., Boston, Mass.
 Ross, Arthur J., Perry (L.M.)
 Rotkow, Maurice J., Des Moines
 Rowan, Charles J., Santa Monica, Calif.
 Rowat, Harry L., Des Moines
 Rowley, William G., Sioux City
 Rowse, Robert Q., Sioux City
 Royal, Lester A., West Liberty
 Royal, Malcolm A., Des Moines
 Ruark, William T., Westfield, Mass.
 Ruml, Wentzle, Cedar Rapids
 Rusk, Lester D., Sioux City
 Russ, Jesse E., Rake
 Russell, Charles R., Keosauqua
 Russell, Edmund D., Fort Dodge
 Russell, Elwood P., Iowa City
 Russell, John, Des Moines
 Russell, Ralph E., Waterloo
 Rust, Emory A., Webb
 Ruth, Verl A., Des Moines
 Ryan, George C., Maquoketa
 Ryan, Granville N., Des Moines
 Ryan, John C., Des Moines
 Ryan, Martin J., Sioux City
 Saar, Jesse L., Donnellson
 Safley, Agnes I., Cedar Rapids
 Sahs, Adolph L., Iowa City
 St. Onge, Joseph A., Sioux City
 Sala, Ono P., Davenport
 Sallander, Frederick W., Sioux City
 Sampson, Carl E., Creston
 Sampson, Frank E., Creston (L.M.)
 Sams, Joseph H., Clarion (L.M.)
 Samuelson, Carl A., Sheldon
 Sanders, George E., Des Moines
 Sanders, Matthew G., Fort Dodge
 Sanders, William E., Des Moines
 Sarff, Floyd G., Logan
 Sawyer, Grace M., Woodward
 Sawyer, Prince E., Sioux City
 Sayler, Harley L., Des Moines (L.M.)
 Sayre, Ivan K., St. Charles
 Scanlan, Maurice, De Witt
 Scanlon, George H., Iowa City
 Scannell, Raymond C., Carroll
 Schach, Arthur C., Burlington
 Schaefer, Paul H., Burlington
 Schanche, Arthur N., Ames
 Scharle, Theodore, Dubuque
 Scheele, Mathias H., Dubuque
 Scheldrup, Eugene W., Iowa City
 Schermerhorn, Grace C., Clinton
 Schier, Anton R., Woodward
 Schifferle, Edward, Creston (L.M.)
 Schilling, Nicholas, New Hampton
 Schmidt, Bernhard H., Davenport (L.M.)
 Schmitt, Robert W., Scranton
 Schmitz, Henry C., Des Moines
 Schnug, George E., Dows
 Schoon, Harold W., Sibley
 Schroeder, Adrian J., Marshalltown
 Schroeder, Frank N., Ryan
 Schroeder, Leslie V., Walcott
 Schroeder, William, Thompson
 Schrup, Joseph H., Dubuque (L.M.)
 Schultz, Albert A., Fort Dodge
 Schultz, Ivan T., Humboldt
 Schultz, Jacob F., Iowa City
 Schultz, Nelle E. T., Humboldt
 Schultz, Walter H., Schleswig
 Schwartz, John W., Sioux City
 Scott, Homer W., Fort Dodge
 Scott, Philip A., Spirit Lake
 Scott, Sophie H., Des Moines (L.M.)
 Scott, Walter, Sioux City
 Scott, Walter E., Adel (L.M.)
 Scruby, Leone M., Des Moines
 Seaman, Charles L., Mt. Airy
 Sebern, Richard C., Fort Dodge
 Secoy, Frank L., Sioux City
 Sedlacek, Leo B., Cedar Rapids
 Seibert, Cecil W., Waterloo
 Seidler, William A., Jamaica (L.M.)
 Seiler, Raymond A., Blainstown
 Sellards, Joseph W., Clarinda
 Sells, Benjamin B., Independence
 Sells, Frank W., Osceola
 Selman, Ralph J., Ottumwa
 Senska, Frank R., Brandon
 Senty, Elmer G., Davenport
 Severson, George J., Slater
 Shafer, Lee E., Davenport
 Shane, Robert S., Pilot Mound
 Shannon, Edwin R., Waterloo
 Shaw, Albert E., Des Moines
 Shaw, David F., Britt
 Shaw, Ernest E., Indianola
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COMPARISON OF THE DEFECTS IN THE VARIOUS TYPES OF ANEMIA*

FREDERICK H. LAMB, M.D., Davenport

Generally, the term anemia implies a reduction from normal values in the number of circulating red cells, a diminution in hemoglobin, or both. In a more restricted sense, the term designates a group of blood dyscrasias characterized by the reductions just mentioned, but due to inherent defects in the blood itself or in its production or destruction. Since it is the intention at present to deal with the hematologic aspects of anemia, such anemic states or complications as those in chronic nephritis, hypothyroidism, malignancy, chronic infection, hemorrhage, and toxemia will be considered only incidentally.

To compare the defects underlying the anemic blood dyscrasias, it is essential to review some of the important points in the histogenesis and physiology of the blood. Hematologic tests of great value in differential diagnosis are based on these elementary facts. For practical purposes this resumé may be considered in the following sequence:

1. The hematopoietic function of the bone marrow.
2. The life cycle of the erythrocyte.
3. The total volume of red cells and hemoglobin.
4. The rôle of red cells and hemoglobin in internal respiration.
5. The destruction of red cells and the salvage of end products.

I. THE BONE MARROW AS AN ORGAN

The total amount of bone marrow in the normal adult is about 1,400 grams. Conceived as a hematopoietic unit, the marrow would represent an organ nearly seven times the size of the spleen. The red active marrow contains an intricate network of reticular cells, from which by a process of budding arise the stem cells, which in turn develop into mature erythrocytes. Various stages or levels

in the early development of red cells may be identified by the character of mitochondria and the amount of basophilic granulations in the cytoplasm. Nuclear changes help to characterize later stages. For a time after the young enucleated erythrocytes enter the circulation they may be recognized by their content of a finely granular reticulum. Thus by a comparative study of the bone marrow and the peripheral erythrocytes it is possible to determine the prevailing level of development, and to recognize deviations and departures from the normal. Such examinations may be readily made on marrow obtained by sternal puncture, and in certain doubtful cases these studies are of great value in differential diagnosis.

* The generation of red blood cells requires not only the nonspecific elements such as protein, carbohydrate, fat, water, vitamins, and mineral salts which enter into the formation of all body cells, but in addition thereto, the following specific substances. Iron is essential to the formation of hemoglobin, and a specific anti-anemia factor or substance, the exact nature of which is unknown, is necessary to promote the maturation of the red cell. The prolonged deprivation of food, water, or vitamins will lead to a form of starvation anemia. An insufficient supply or inability to synthesize iron from any cause will lead to a lack of hemoglobin such as that of hypochromic anemia. Absence of the Castle maturation factor or its inability to function results in pernicious anemia with its characteristic large hyperchromic cells. These examples of defective hematopoiesis comprise what may be called the deficiency group of anemias.

Occasionally the progenitor cells of erythrocytes in the marrow are all but crowded out of existence by other myeloid cells, by the metastatic invasion of neoplastic cells, or by the endosteal proliferation of bone and fibrous tissue so that the generation of red cells is physically impossible. The resulting anemias are classified from an etiologic standpoint as the myelophthistic group. Closely allied results are seen when the functioning of red marrow

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is inhibited or halted altogether as in benzol poisoning. Quantitative depression of marrow activity is frequently associated with lowered metabolism (myxedema), and with the chronic toxemia of chronic nephritis and cachexia.

II. LIFE CYCLE OF RED CELLS

Red cells wear out in the circulation and are constantly being added thereto on a replacement basis. It is generally accepted that the peripheral cycle of the erythrocyte is completed in from four to six weeks. Thus the conventional blood count and hemoglobin estimation represent only the balance between blood formation and destruction. Obviously, a simple enumeration of red cells and hemoglobin estimation represent only the degree of anemia. When the cause or nature of a blood dyscrasia anemia is sought one or more of the following additional examinations are necessary:

1. The size of red cells as determined by microscopic measurement, also their shapes and staining qualities.

2. The aggregate volume of red cells as determined in the hematocrit. The relation of the hematocrit reading in a given case to the number of red cells, expressed in percentage of normal, is the volume index.

3. The relation of the amount of hemoglobin to the number of red cells. This ratio of the percentage of hemoglobin to the percentage of the normal number of red cells is the color index. When the color index is calculated to normals for sex and age it is referred to as the hemoglobin coefficient.

4. The ratio of hemoglobin per unit volume of cells to the average hemoglobin per unit volume of cells in a normal individual of the same sex and age group is called the saturation index.

5. In the disintegration of erythrocytes, bilirubin is formed as one of the end products of hemoglobin destruction, and iron is released. When the rate of destruction is increased the bilirubin value of the blood serum rises; when the rate of destruction is diminished the serum bilirubin falls. The ratio of the bilirubin value of unknown serum to that of normal serum is the icterus index. Under normal conditions in a twenty-four hour period, about 500 cubic centimeters of bile are secreted by the liver which contains from 300 to 400 milligrams of bilirubin. There is some question as to the proportionate amount of this quantity of bilirubin derived from hemoglobin alone. For clinical purposes, the icterus index is determined by comparing the clear blood serum with a 1:10,000 dilution of potassium dichromate and is reported in units, the normal value being from four to six. These normal figures presuppose that all pigment

present in the serum is bilirubin, and that the rate of hemoglobin destruction and liver function is normal. Serum bilirubin values rise in the presence of any liver disease in which there is biliary obstruction. To differentiate between the bilirubin of hemolytic jaundice and that of obstructive jaundice, the van den Bergh test has had considerable vogue. (It is possible, however, that the direct, delayed, biphasic and indirect reactions depend on the concentration of bilirubin rather than its mode of production.) Consequently it is doubtful whether the van den Bergh reaction adds much information to that derived from the icterus index. Quantitative estimations are to be preferred and are probably of about equal value in both tests.

6. The most reliable criterion of hematopoietic activity is the reticulocyte count. Normal limits lie between 0.1 and 0.5 per cent or from 5,000 to 25,000 reticulocytes per cubic millimeter of blood. Except in infants and very young children an increase above one per cent is an abnormal increase. The highest reticulocyte values occur in familial or acquired hemolytic icterus and in sickle cell anemia. So consistent and definite is the reticulocyte response following adequate treatment in pernicious anemia that the potency of the remedy may be assayed in this way.

7. The resistance of red blood cells to hypotonic salt solution may be taken as an index of their inherent durability. In familial and acquired hemolytic icterus the spheroidal shaped red cells undergo hemolysis when the concentration of sodium chloride is slightly under 0.5 per cent (0.48 to 0.42 per cent), whereas normal red cells resist hemolysis down to 0.4 per cent (0.42 to 0.34 per cent).

When it is necessary to complete the blood picture, the following additional examinations may be made: differential count of the leukocytes, estimation of the platelets, determination of the coagulation and bleeding time, the viscosity, the sedimentation rate, and an estimation of the total blood volume.

III. TOTAL VOLUMES OF RED CELLS AND HEMOGLOBIN IN CIRCULATION

The total volume of circulating red cells without the plasma, normally occupying the vascular bed of a 150 pound male, is approximately three liters. The normal hemoglobin content of this volume of red cells is about 500 grams. The total iron content of the hemoglobin is normally about three grams. The daily turnover, that is the production and destruction of red cells, hemoglobin, and iron, is roughly three per cent of the total, or 100 cubic centimeters of blood cells and 15 to 20 grams of hemoglobin. Approximately 100 milli-

TABULAR COMPARISON OF DEFECTS IN VARIOUS TYPES OF ANEMIA,
CHARACTERISTIC HEMATOLOGIC FINDINGS IN TYPICAL CASES

CONDITION	PRODUCTION Condition of bone marrow	CIRCULATION Laboratory findings in typical cases	DESTRUCTION
Normal	Normal red marrow in sternum, ribs, vertebrae, cranium, pelvic bones (1400 cc.) Nonspecific factors: normal. Specific factor: normal. Iron supply: normal. Daily production: 100 grams, red blood cells, and 20 grams hemoglobin.	Red blood cells 5.0 Hemoglobin 100.0% 15 grams per 100 c.c. Volume index 1.0 Color index 1.0 Saturation index 1.0 Icterus index 1.0 Reticulocytes 0.5% Cells: biconcave discs.	100 grams, red blood cells eliminated from circulation daily. 20 grams, hemoglobin broken down. 300-400 milligrams bilirubin formed. 100 milligrams iron released. 85 milligrams iron resynthesized. 15 milligrams iron replaced in food.
Pernicious Anemia (Macrocytic, hyperchromic)	Hyperplastic marrow in all bones. Compensatory over production of nucleated and young cells. Lack of specific maturation factor.	Red blood cells 1.0 Hemoglobin 30.0% Volume index 1.3 Color index 1.5 Saturation index 0.9 Icterus index 10.0 Reticulocytes 0.5 Macrocytes +	Immature red blood cells destroyed (probably in marrow) hence more bilirubin produced and iron released.
Aplastic Anemia (Idiopathic, Arsphenamine, benzol, etc.)	Marrow hypoplastic, inactive, partly or all destroyed.	Red blood cells 1.0 Hemoglobin 20.0% Volume index 0.9 Color index 1.0 Saturation index 1.0 Icterus index 3.0 Reticulocytes 0.0	Less red blood cells and hemoglobin produced, no increased destruction, hence less bilirubin and iron released.
Anemia of Chronic Hemolytic Icterus Sickle Cell Anemia	Hyperplastic marrow compensating for increased red blood count destruction due to inherent weakness of spheroidal or sickle shaped cells. Many new cells formed.	Spherocytic Red blood cells 3.0 3.0 Hemoglobin 55.0% 45.0% Volume index 1.0 0.7 Color index 0.9 0.7 Saturation index 0.9 0.7 Icterus index 15.0 15.0 Reticulocytes 20-50 7-15 Fragility 0.48 0.42	Mis-shaped cells rapidly removed by spleen and liver, hence more bilirubin formed and iron released.
Hypochromic Anemia Anemia of Chronic Hemorrhage	Hyperplastic marrow, compensatory for loss of hemoglobin. Lack of iron due to blood loss or insufficient assimilation of iron.	Red blood cells 3.0 Hemoglobin 40.0% Volume index 0.6 Color index 0.75 Saturation index 0.6 Icterus index 2.0 Reticulocytes 0.5 (With iron reticulocytes 10-15)	Fewer red blood cells and hence less hemoglobin available, less destruction, less bilirubin formed and less iron released.
Myelophthistic Anemia (due to leukemia, metastatic cancer, marble bone disease, etc.)	Myeloid hyperplasia, crowding out erythrogenic elements, or endosteal proliferation of bone.	Red blood cells 2.5 Hemoglobin 35.0% Volume index 1.0+ Color index 0.7 Saturation index 0.7 Icterus index 3.0 Reticulocytes 1.0 (Leukocytes in leukemia may be up to 500,000)	Fewer red blood cells and less hemoglobin produced. Less bile and iron released.
Anemia of Chronic Toxemia (Chronic nephritis). Anemia due to marrow depression (Myxedema)	Altered hematopoietic function due to chronic poisoning of marrow. Marrow slightly hyperplastic compensatory for hemoglobin insufficiency.	Red blood cells 3.0 Hemoglobin 45.0% Volume index 1.0 Color index 0.75 Saturation index 0.9 Icterus index 4.0 Reticulocytes 1-3	Fewer red blood cells and less hemoglobin produced. Less bile and iron released.

grams of iron are released, of which 85 milligrams are resynthesized, leaving 15 milligrams to be derived from the daily diet. Since the average normal diet contains only about 15 milligrams of iron, it may be readily understood that any considerable or prolonged loss of blood results in an iron and hemoglobin deficiency. It has been demonstrated recently by Fowler at the University of Iowa, that the occurrence of hypochromic anemia in middle-aged women is traceable to the excessive loss of menstrual blood. In both sexes, the prolonged loss of blood, as from hemorrhoids, results eventually in hypochromic anemia. In gastric achlorhydria it is probable there is a deficiency in the rate or amount of iron absorption.

IV. ROLE OF THE RED CELLS AND HEMOGLOBIN IN INTERNAL RESPIRATION

The transportation of hemoglobin in red blood cells is the physical basis of internal respiration. In the normal resting male of 150 pounds weight, approximately 250 cubic centimeters of oxygen are carried from the lungs to the other body tissues per minute, and about 200 cubic centimeters of carbon dioxide are transported from the tissues to the lungs. During strenuous muscular exercise these quantities may be increased as much as tenfold. According to Van Slyke, to carry two liters of oxygen in physical solution (i. e., without hemoglobin) about 100 liters of blood would be required. The heart at its greatest activity is able to pump no more than 25 liters of blood per minute. It is evident then that if our activities depended on the volume of oxygen which could be transported in physical solution, those activities would be only about one one-hundredth part as great as nature now permits us. Moreover this substance, hemoglobin, furnishes alkali to combine with all the carbonic acid which can be liberated in periods of vigorous activity and permits it to escape only through the alveolar air.

V. DESTRUCTION OF RED CELLS AND SALVAGE OF END PRODUCTS

The destruction and elimination of red cells from the circulation is normally the function of the reticulo-endothelial system. The rate of elimination is greatly accelerated in familial and acquired jaundice due probably to inherent defects in the red cells. Certain bacterial toxins and chemical poisons such as phenylhydrazine are capable of exerting a severe and specific hemolytic effect. Any considerable increase of red cell destruction above the normal rate is quickly reflected in rising bilirubin values of the blood plasma; later a deposition of the pigment in the skin and throughout the viscera takes place. The reassimilation of

protein, water, and inorganic salts, and the resynthesis of iron from broken down hemoglobin are illustrative of the conservation functions of which there are many comparable examples in the economy of the human body.

SUMMARY

The underlying defects of the various types of anemia have been compared with each other and with the normal blood picture. All types of anemia may be fitted into this same tabular outline, the purpose of which is to simplify an otherwise complex subject. If one associates the mechanism of blood production and blood destruction with the peripheral blood picture, the clinical interpretation of hematologic findings becomes much more satisfactory.

GENERAL SURGERY IN DIABETES MELLITUS*

Report of Thirty Cases

JOSEPH B. PRIESTLEY, M.D., F.A.C.S.
Des Moines

Statisticians estimate that 400,000 persons in the United States have diabetes and that an additional 2,000,000 will develop diabetes before they die. Joslin¹ has stated that every other diabetic patient at some time develops a surgical complication. Diabetic surgery formerly carried a tremendously high and almost prohibitive mortality rate; however, since the era of competent insulin therapy, diabetes is seldom a contraindication to any contemplated surgical procedure. The use of insulin has extended the longevity of the diabetic patient, and more of them attain the age when surgical complications commonly occur. Therefore, one becomes more impressed with the importance of general surgery in diabetes. Because of this ever-increasing importance, and because these patients differ greatly from the ordinary surgical patient, I shall discuss the subject from the following five aspects: first, the necessity for cooperation with the medical colleague; second, preoperative and postoperative care; third, the choice of an anesthesia; fourth, surgical conditions complicated by diabetes; and fifth, surgical conditions resulting from diabetes.

No realm of surgery demands closer cooperation between the surgeon and his medical colleague than that involving the diabetic patient. Preoperative preparation of the patient and intelligent estimation of the degree of diabetes before any surgical operation, no matter how apparently trivial or how gravely an emergency, constitute the first pre-

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requisites. Postoperatively, acidosis must be combated by sufficient amounts of insulin, or insulin and carbohydrates varied according to frequent urine examinations. Sudden release of infections may greatly reduce the amount of required insulin and should receive adequate consideration to avoid hypoglycemic reactions. The services of a physician well versed in insulin therapy with a sound knowledge of diabetes are paramount for successful diabetic surgery. This fundamental fact has such great importance that the advisability of surgery on any diabetic patient should be considered doubtful where such services are not obtainable. I do not attempt to handle the preoperative and postoperative medical diabetic care myself, and have asked Dr. E. B. Winnett to speak on this topic in his discussion. In the preoperative and postoperative surgical care of the diabetic patient, two factors receive more than ordinary consideration. First, many patients, especially those in whom emergencies occur, suffer marked dehydration; therefore, the plentiful use of intravenous fluids is generally indicated until a normal fluid balance results. Second, it is known that the diabetic patient is especially prone to develop infection, and that frequently some impairment of sensation exists; therefore, surgical wounds should be inspected daily in order to release serum or infection at the earliest moment. This frequent observation allows the immediate institution of adequate treatment in the event that any small gangrenous areas develop.

Choice of the correct anesthesia for the individual patient rests on two considerations. From the various anesthetics suitable for the contemplated operative procedure, one should select that which upsets the carbohydrate metabolism least. Local infiltration may be employed advantageously at times, either alone or in conjunction with a secondary analgesic. It must be remembered, however, that the infiltration of novocain into tissues with extremely poor blood supply may cause gangrene of the entire injected area. This specifically pertains to certain patients requiring toe amputations. For major amputations and abdominal operations, spinal anesthesia, usually preceded by morphine and a suitable barbituric acid derivative, serves excellently. Ethylene or nitrous oxide may be employed as a supplementary analgesic, if necessary. Indications for primary gas anesthesia arise when spinal anesthesia does not lend itself well to the contemplated operative procedure. General anesthesia inhibits insulin activity and may excite troublesome postoperative nausea and vomiting. Ether, one of the worst offenders, should seldom be employed primarily. At times small amounts of ether may be required and can be used with

impunity. It should be reserved for those occasions which offer no other alternative. Intravenous anesthetics may serve for short procedures. As yet I am somewhat wary of them. I have not given avertin because of its prolonged action. One feels more comfortable with the diabetic patient conscious immediately after the operation, since pre-coma or hypo-insulinism can then be readily recognized.

Let us turn now to the group of patients operated upon for major surgical conditions complicated by diabetes. (See Chart I.) Four points of

CHART I
MAJOR SURGERY COMPLICATED BY DIABETES
17 Cases

Appendectomy—three cases	Intestinal Obstruction*
Appendiceal Abscess	Thyroidectomy
Salpingectomy	Carcinoma of the Lip
Hysterectomy	Nephrectomy—two cases
Cholecystectomy	Cystostomy*
Cholecystostomy*	Hemorrhoidectomy
*Deaths.	Transurethral Prostatic Resection—two cases

interest appear. Of the three deaths, none resulted from coma. Case 1, Mrs. I. M., seventy-three years of age, was admitted to Iowa Methodist Hospital, with diabetes of fourteen years' duration. Two weeks previously fever and chills had developed. Cystoscopic examination disclosed a low grade pyelonephritis. Two days after admission abdominal pain developed, followed by visible peristalsis and abdominal distention. Abdominal exploration revealed a band obstructing the sigmoid, which was freed. Her postoperative condition was poor. Postmortem examination revealed bilateral cortical abscesses of the kidneys, always a fatal condition. Case 2, Mr. J. K., sixty-eight years of age, presented himself suffering from a severe pyelonephritis secondary to prostatic obstruction. A suprapubic cystostomy was performed. Several weeks later a metastatic abscess of the left axilla developed from which 150 cubic centimeters of thick pus were evacuated. He died after a seven weeks' hospital stay, from pyelonephritis with secondary metastatic abscesses. Case 3, Mr. C. A., sixty-five years of age, with severe diabetes, was observed in the hospital for one week because of severe abdominal pain. During this time cholecystography disclosed a non-functioning gallbladder. Because of poor general condition, he was advised to return home when the pain subsided. Several weeks later abdominal pain again brought him to the hospital. Cholecystostomy was performed without removal of the gallbladder. He died rather suddenly on the third postoperative day. An overwhelming genito-urinary infection accounted for the first two of these deaths. The third death appeared to be cardiac in origin, but remained unproved. In no instance did diabetic coma develop postoperatively, and in no way could diabetes, *per se*, be blamed for these deaths.

Just as pain and temperature sense often appear decreased in the extremity of the diabetic patient, so may pain in the abdomen be greatly ameliorated. Mrs. J. H., thirty-three years of age, walked into her physician's office, complaining of abdominal cramps of three days' duration. Two days previously she had vomited twice. Twenty-four hours before seeing her physician, the pain became localized in the right side. Since the onset she refused only one meal. A known diabetic patient for twelve years, she required forty-two units of insulin daily. The point I wish to emphasize is that physical examination disclosed no rigidity and only a very moderate amount of right lower quadrant tenderness. The white cells numbered 17,500. Her temperature registered 100 degrees. An immediate operation was advised. A gangrenous appendix was removed and a small appendiceal abscess was drained. This illustrates how the pain and tenderness in the acute surgical abdomen of a diabetic individual may at times be much less than that caused by similar pathology in an otherwise healthy person. Likewise, it has been pointed out that in early diabetic coma, leukocytosis, fever and abdominal pain, ranging in severity from that ordinarily seen in appendicitis to that seen in gall-bladder disease or a perforated ulcer, may be present. In such instances when a differential diagnosis between actual intra-abdominal pathology and the acidosis of pre-diabetic coma arises, the patient should be treated with intravenous saline and insulin for twelve hours. If abdominal symptoms persist after one has rectified the acidosis, a surgical condition must be considered. It therefore behooves us all to evaluate adequately abdominal pain in diabetes. The patient subjected to bilateral subtotal thyroidectomy recalls to our minds the high incidence of glycosuria in thyrotoxicosis and the low incidence of actual diabetes. The glycosuria frequently seen with hyperthyroidism results from an abnormally rapid breakdown of glycogen. In hyperthyroidism, a fasting blood sugar of 0.15 per cent is necessary before Joslin² makes a diagnosis of true diabetes. He states: "The effect of hyperthyroidism on diabetes is to intensify the disease as with infection, with an increasing demand for insulin. Following surgical relief there is increasing carbohydrate tolerance." Miller³ aptly says, "The diabetic is unfavorably influenced in proportion to the severity of the diabetes." The seriousness of this complication has caused Lahey⁴ to resort at times to the two stage operation. The close relationship between diabetes and hyperthyroidism bears further investigation. In passing let us recall the high incidence of gall-bladder disease in the diabetic patient. Collins in a series of 54 autopsies, found that cholecystitis

or gall stones occurred in twenty per cent. Joslin stated that among 201 diabetic patients twenty-five years of age or more, 24 per cent had gall stones. Certainly we must be ever alert lest gall-bladder disease in the diabetic patient be overlooked.

Let us now consider the group of patients in which diabetes itself is mainly responsible for the surgical condition. The pathologic physiology underlying all these conditions consists of arteriosclerosis, infection and gangrene. Arteriosclerosis, the direct cause, is the greatest danger confronting the diabetic patient. Even the relatively young individual shows demonstrable arteriosclerotic changes if the diabetes is of long standing. In the other patients, the degree of arteriosclerosis becomes enhanced, since these patients frequently have reached the sclerotic decades. This sclerosing process causes proliferative and degenerative changes in the vessel walls with ultimate obliteration of the vessel lumen. As this process proceeds, gradual occlusion of the lumen usually occurs, but sudden occlusion with circulatory impairment sufficient to cause gangrene may take place. When the occlusion occurs gradually, a collateral circulation, the body's defense against eventual gangrene, develops. The impaired blood supply makes these tissues especially vulnerable to slight trauma. Wounds, which under normal conditions would heal rapidly, heal slowly or not at all. Degeneration in the peripheral sensory neuron often results in burns or trauma, which with normal nerve supply, might not have occurred, further adding to the difficulties of the diabetic patient. Arteriosclerotic changes occur not only in the extremities but also in other parts of the body, especially the coronary arteries. From autopsy material at the Deaconess Hospital, Root⁵ found coronary sclerosis in every diabetic patient over forty years of age who had had the disease for five years or longer. Coronary thrombosis with infarction occurred in 25 per cent of the cases. The great susceptibility of the diabetic patient to infections of all kinds appears on every hand. Slight infections developing in the extremities, which normally the tissues could easily overcome, increase in severity and often spread because the defense process of the tissues has become so greatly weakened by diminished circulation. Estimation of the extent of vascular impairment and evaluation of the severity of the associated infection constitute the two most important considerations in any lesion found in the extremity of the diabetic individual. Our decision regarding whether or not to amputate and if so, where, rests on these considerations. One must estimate the condition of the dorsalis pedis, posterior tibial and popliteal

arteries by the presence or absence of palpable pulsations. Temperature changes in the extremity are grossly discernible to the trained hand. Color changes occurring with postural alterations of the extremity, the elasticity of the skin, and the amount of subcutaneous fat, also afford valuable clues. The second major consideration is the amount of infection present, and the rapidity with which it extends. There may be no infection present or it may be extensive; it may be localized or rampant; superficial or deep. Upon the estimation of circulatory efficiency and the nature and extent of infection we must base our decision for the best course of treatment.

Potential surgical conditions consist of small superficial gangrenous areas, diabetic blisters, and minor abrasions associated with no infection or slight localized superficial infection in an extremity with reasonably good circulation. These usually do well under a medical regime. The institution of Burger's exercises, strict diabetic regime, judiciously administered heat, and the removal of all foci of infection are most important. In this connection, the great prevalence of hidden urinary tract infection should be kept in mind. From post-mortem examinations, Sharkey and Root⁶ found that one out of every five diabetic patients has urinary tract infection. The introduction of mandelic acid therapy by Rosenheim⁷ has been of great value in some of these cases. The use of alternate atmospheric pressure change has value in selected cases. Whether or not these conditions heal depends greatly upon circulatory efficiency. With insufficient circulation they become worse; with adequate circulation they usually improve. Surgical conditions in the diabetic extremity require astute judgment. Extensive suppurations occurring without gangrene may be incised and drained when the surgeon knows that the circulation in the extremity is adequate. If one incises extensive suppurations in the face of poor circulation, infection spreads, gangrene frequently develops, and the patient may die. Under such circumstances primary amputation should be chosen. Gangrene without infection generally requires amputation. In an occasional case where the gangrene is dry gangrene, as contrasted with the moist gangrene most commonly seen in diabetic persons, the gangrenous member may be allowed to demarcate and slough off. This is advisable only very rarely. In gangrene with infection, the adequacy of the circulatory system and the degree of infection are of great importance. Suppurations or lymphangitis may occur with gangrene. Both are serious because rapid extension is not uncommon and septicemia may develop before we know it. At times an extensive infection may demand para-

mount consideration, requiring immediate amputation as a life saving measure. At other times lymphangitis with gangrene occurs. In such cases observation with conservative treatment for twelve hours will indicate the effectiveness of such measures. If no improvement occurs, immediate amputation is advisable; if the patient is improving, amputation may be temporarily deferred.

Having decided upon amputation in a given case, the surgeon must determine the most advantageous site for amputation. Roentgenologic evidence of calcification in vessels gives no clue to the amputative site. As already intimated, circulatory efficiency and the type and extent of infection form the basis for our judgment. A gangrenous toe, without infection in a foot with adequate circulation, can be removed and no further surgery will be immediately necessary. Only seldom do we see patients presenting indications for amputation through the lower leg. McKittrick⁸ believes this should be undertaken only in the presence of good circulation with no infection at the site of amputation. He points out that the number of such amputations is not large, and secondary amputations are not uncommon. By and large, when amputation of a leg becomes necessary, the higher amputations appear more preferable. The Gritti-Stokes amputation through the knee joint, and the supracondylar amputation through the lower thigh, have preference in these cases. The latter method is rapidly gaining in popularity because the Gritti-Stokes stump has only little advantage over the supracondylar stump, and the necessarily increased manipulation of tissues with impaired blood supply is attended by greater hazard. Eliason⁹ says "At the risk of being regarded radical, the author wishes to reiterate that in his opinion the best form of treatment in ordinary diabetic gangrene (favorable cases excepted) both as regards immediate and end results, is an early, high, quick, drained amputation." The economic status of the individual occasionally influences one's decision.

CHART II
SURGICAL PROCEDURES FOR DIABETIC CONDITIONS
13 Cases

Supracondylar amputation—seven cases
Three deaths—one patient, both legs
Lower leg amputation—one case
Toe amputation—two cases, one death
Extensive suppuration—two cases
Upper arm amputation—one case, death

Chart II indicates the group of patients operated upon for conditions directly related to diabetes. I wish to discuss certain of these cases in detail. Case 1, Mr. O. H., fifty-three years of age, was admitted August 7, 1936. Ten months previously he had developed a gangrenous toe, which was amputated. Gangrene later extended and amputation through the lower leg was performed.

Diabetes was not discovered until after his leg was removed. Gangrene recurred and a supracondylar amputation through the lower leg was performed. This was his fourth amputation. The stump continued to drain pus. Examination showed a supracondylar stump with multiple sinuses draining thick pus. Roentgen examination disclosed "several small pieces of loose bone in the soft tissue at the end of the femur; bony exostosis in the upper and posterior surface of the shaft of the femur with an area of osteomyelitis extending up the shaft of the femur for a distance of one-half inch." After adequate time for diabetic regulation, reamputation was performed on August 14, 1936, under spinal anesthesia. Before closure a roentgenogram taken with a portable x-ray machine in the operating room showed all bony fragments removed. The stump completely healed. This case illustrated several interesting features. First, the patient stated that diabetes was not discovered until after an operation for gangrene. Second, it emphasizes the importance of accurately estimating circulatory efficiency and the correct site before amputation. Third, it indicates the importance of removing all bone fragments, saw dust and the periosteum of the distal bone from the wound before closure. Bone wax should be applied to avoid osteomyelitis and the wound closed to avoid dead space.

Case 2, Mr. T. S., seventy-four years of age, was admitted to Iowa Methodist Hospital with the diagnosis of diabetic gangrene of the foot with considerable infection. A supracondylar amputation was advised and performed. The patient died on his fourth postoperative day with bronchopneumonia and a gas bacillus infection in the wound. This case illustrates the importance of giving gas gangrene antitoxin prophylactically. This is the only leg amputation in which the patient did not receive antitoxin preoperatively. The importance of giving gas gangrene antitoxin to all patients before leg amputations cannot be over-emphasized. Certain observers have found that even after administration of the prophylactic dose, a gas bacillus infection occasionally results. I have experienced this in one case. Therefore, at present I prefer the therapeutic dose given prophylactically while the patient is anesthetized. Case 3, Mrs. E. F., fifty-one years of age, complained of diabetic gangrenous areas on both feet. The area on the left foot appeared deeply ulcerated between the fourth and fifth metatarsals. Her fever ranged above 102 degrees. A supracondylar amputation was performed. A blood culture taken the day before surgery was reported positive the day after her operation. She died on her tenth postoperative day of a septicemia. I cite this case

to emphasize the fact that the presence of a positive blood culture should not in itself be a contraindication to amputation. Although this patient died, such will not always be the case.

Let us conclude then that, properly managed, the surgical diabetic patient never dies from coma but frequently from infection. The risk of surgery to the diabetic individual, whose primary condition has no diabetic etiologic basis, appears only slightly greater than for the non-diabetic person. Major amputations for diabetic gangrene carry a high mortality rate because of frequent extensive infection, commonly associated with marked dehydration and coronary disease in individuals in the later decades of life. Much gangrene could be avoided by proper care of the diabetic extremity. Minor operations in the diabetic patient, especially carbuncles, fractures and so forth, should receive the same careful management accorded major procedures. The importance of circulatory adequacy of a diabetic extremity should receive as much and often more consideration than the height of blood sugar curves.

1418 Des Moines Building.

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Discussion

Dr. E. B. Winnett, Des Moines: The preoperative and postoperative medical care of the diabetic patient confronted with a surgical operation is just as important as the surgeon's work at the time of operation. These patients demand careful and frequent observation, and differ in many respects from all other types of surgical cases. The medical aspects of the surgical diabetic case will be discussed from the following three points of view: first, preoperative management of the diabetic patient; second, the preparation of the diabetic patient when time is not a factor, and on the other hand, when an emergency exists; and third, postoperative management.

Certain general features of the surgical diabetic case have considerable importance. The cardiovascular system demands careful attention because of the extremely high incidence of coronary disease when the diabetes is of long standing. The neck

should be carefully examined for goiter, since an overlooked hyperthyroidism would be a serious matter. All possible infections should be scrutinized and determined, because any hidden residual infection increases the insulin requirement and adds to the difficulty of diabetic control.

When sufficient time exists preoperatively, one can control the diabetes by the use of either the old modified insulin or protamine zinc insulin. An effort is made to increase the glycogen content of the liver so that a better reserve will be at hand to cope with the anesthesia. Dehydration is combated by the usual means, using intravenous and occasionally subcutaneous fluids when indicated. When the surgeon deems the operative procedure an emergency, the patient should be prepared rapidly. Time always exists for a thorough examination of the patient as outlined above. However, it is necessary to prepare the patient from the diabetic standpoint more rapidly. At times this treatment is postponed and initiated immediately after the operation. It consists of fluids administered intravenously, insulin, and food as soon as the patient's stomach will tolerate it. The most important factor is the avoidance of ketosis.

Postoperatively these patients should have exercise as soon as possible. Insulin is administered according to the amount of urinary sugar. There is no universal rule of thumb for this management because each patient presents different indications. Some require insulin every two hours; others every twelve or twenty-four hours. Some can take foods two hours after the operation; others must refrain longer. Postoperative nausea and vomiting are extremely bothersome, and are best avoided by the choice of anesthesia and an intelligent estimation of how early food can be given by the mouth and be retained. One should watch closely for morphine idiosyncrasy, and promptly substitute pantopon or dilaudid should the occasion arise.

Many factors enter into the management of these cases, and if these factors are unrecognized or clumsily treated the result may be disastrous for the patient. Therefore, the surgical diabetic case requires the services of a surgeon and an internist, both of whom are well versed in the management of this type of patient. A new challenge has been introduced to the surgeon handling diabetic patients, a challenge which includes the internist as well; that is, the preoperative and postoperative management of the diabetic patient using protamine zinc insulin. This substance has been used successfully in a few of the cases presented by Dr. Priestley, but when this new preparation becomes more widely used, more and more diabetic patients of this type will be seen by the surgeon. It would, therefore, be wise for the surgeon as well as the internist to acquaint himself thoroughly with the action of protamine zinc insulin in surgical diabetic conditions.

Dr. Priestley is to be congratulated on the very fine presentation he has made of this subject, and I consider it a privilege to have been asked to discuss his paper.

Dr. Walter F. Harriman, Sioux City: This is a timely subject. We have become too much interested in new operations, surgical technics, et cetera, and have ignored the more important, practical everyday considerations of surgery. Dr. Priestley's paper has covered the question of the diabetic surgical patient well and ably. My statements will be merely to emphasize some of his well taken points. The matter of the choice of an anesthetic is a pertinent one. Those of us who like spinal anesthesia may well use it here; but, judging from my experience with cyclopropane and ethylene, these may serve equally well. In a conversation with Dr. Priestley this morning, he suggested that antitetanic and gas bacillus serum may be given at the close of an amputation; and that, if given in an area of anesthesia such as the lower extremity where spinal anesthesia is the primary anesthetic, there is lessened danger of anaphylaxis due to the paralysis of vasomotor nerves in this area. Our discussion included also the use of protamine zinc insulin; and, while Dr. Priestley has had a few cases treated postoperatively with this preparation, it seems obvious that better control of the blood sugar is maintained by the use of regular insulin. There are times when the blood sugar estimations must be taken every few hours, and it might be necessary to change the insulin dosage at each blood sugar estimation. Finally, let me say that we do not know everything concerning diabetes. It is not easy to explain some of the transient and more or less temporary cases of diabetes that follow operations on patients with alcoholism, generalized carcinomatosis, and gallbladder disease. In my experience, insulin therapy has proved most difficult in those patients with postoperative fever and infection.

DIAGNOSIS AND TREATMENT OF VAGINAL DISCHARGE*

NORA WINTHER, M.D.,
Minneapolis, Minnesota

From 40 to 60 per cent of the female patients who visit the physician's office come because they are suffering from some form of vaginal discharge, consequently a consideration of this all too common complaint cannot be out of place. Vaginal discharges affect women of all ages. They may be classified briefly as infectious and non-infectious. In the first group the infecting organism is the gonococcus, colon bacillus, staphylococcus, streptococcus, *Trichomonas vaginalis*, *Monilia albicans*, diphtheria bacillus, or tubercle bacillus. The non-infectious types include: premenstrual, due to ovarian dysfunction, courtship congestion, cystic ovaries, pregnancy congestion, heart disease and anemias, kidney disease, degenerating uterine fibroid, senile vaginitis, transudative vaginitis, and malignancy.

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The most frequent cause of vaginitis in children is gonorrhea. There is usually a copious irritating discharge. A smear stained with Gram's stain shows numerous gram-negative intracellular diplococci. The source of the infection is often very difficult to locate. The parents frequently have negative smears. Gonorrheal vulvovaginitis may become epidemic in schools. Formerly it was also spread by men who thought they would get a cure if they had contact with a virgin. In these girls there is a tendency for gonorrhea to become chronic. In about one in two hundred cases, salpingitis may be a complication. The writer has obtained the best results by treatment with one-half of one per cent silver nitrate ointment. A one to one thousand merthiolate cream may also be used. In chronic cases, theelin in oil by hypodermic injections, may be given using 700 to 900 rat units in three divided doses weekly. A total of about three thousand units has been very effective. The smears usually become negative in from four to six weeks. They should be checked again in a month and an additional amount of theelin administered if the smears have become positive. It has been suggested that too much theelin may cause scar tissue formation in the ovaries resulting in interference with the onset of the catamenia.¹ Floraquin² may be of advantage in these chronic cases. It produces a hydrogen ion concentration of 4.0 to 4.4. The method of treatment is to irrigate the vagina with boric acid solution and insert two moistened tablets split lengthwise into the vagina, daily.

Gonorrhea is also a frequent cause of vaginal discharge in the adult. Contrary to the common opinion, a clear glary mucous discharge may be due to gonorrhea. A smear from the urethra and cervix should be made. Many claim that gonorrhea is a self-limiting disease. The treatment in acute cases should not be too drastic. Many have severe vulvitis which may be relieved by ice cold packs of saturated boric acid solution. The patient should have complete bed rest with no other treatment for four to ten days. It is probably the best treatment in these acute cases. The vagina should later be washed out with hydrogen peroxide and sodium carbonate solution using equal parts. One to two per cent protargol may be used with care in the cervix, and increased to five per cent in subacute cases. Boroglyceride tampons (although a very old remedy) left in the vagina from six to ten hours afford a great deal of relief. Variable results have been obtained by using Corbus-Ferry gonococcus bouillon filtrate,³ starting with .05 cubic centimeter intradermally and increasing to .2 cubic centimeter or even .7 cubic centimeter at weekly intervals. In some cases

the patient may have a hot dry vagina and vulva with severe dysuria. The urethra and Skene's glands may be treated with 1:500 silver nitrate or 1:1000 merthiolate solution. A few cases of gonorrhea urethritis persist due to a stricture of the urethra. A cure may be obtained by dilating the urethra to six millimeters two or three times a week for a period of three to four weeks. Bartholinitis with abscess formation should be incised widely and packed with iodoform gauze which may be retained for two or three days.

Salpingitis is a frequent complication. The patient should not, however, be operated upon early, because 80 per cent recover spontaneously from the first attack. The Elliott treatment⁴ has become very popular, the optimum temperature being 115 degrees with sufficient distention. This is superior to 130 degrees with less distention. Fever therapy⁵ using hot boxes gives only 55 per cent cure and is a drastic procedure, which is dangerous especially in cases of severe anemia and heart disease. Diathermy used with the hot box is also a very dangerous procedure.

Gonorrhea is usually more severe in virgins than in women who have been married a long time or those who have borne children. Gonorrhea may affect the vagina very severely in women past the menopause, its course closely paralleling the vulvovaginitis of children. Many of these cases in elderly women react well to large doses of theelin.

In early infancy and in childhood *Trichomonas vaginalis* vaginitis is rare. Karnaky⁶ reported one case in a Mexican girl only ten months of age. She was admitted to the pediatric ward of the Jefferson Davis Hospital with a diagnosis of acute respiratory infection. Soon after admittance, the child developed a diarrhea with numerous *Trichomonas intestinalis* in the stool. The urine and vaginal smears were negative. In five days the child had pus in the urine with positive *Trichomonas vaginalis*, and about ten days later a vaginal discharge was positive to *Trichomonas vaginalis*. He observed *Trichomonas vaginalis* in 44 girls between the ages of eleven and sixteen in the past four and one-half years. Ninety-five per cent had menstruated at least once.

The most outstanding symptom of *Trichomonas* vaginitis is pruritus. The patient complains of a constant vaginal discharge, which is pale yellowish green, sometimes so profuse that a pad must be worn continuously. The discharge is very irritating and produces a diffuse mottling and redness about the introitus, at times with ulceration of the vulva and redness of the adjacent surfaces of the thigh. This leads to itching and burning which interfere with the patient's sleep as well as her work. Pelvic pain and even abdominal pain may

be present. The vagina is red and inflamed and very tender. Small hemorrhagic spots may usually be seen. Diagnosis is made by the above symptoms and by finding the organism in the fresh smear, either by the hanging drop method or by placing a drop of normal saline, mixed with the secretion from the vagina, on a slide and covering it with a cover glass, using a little pressure. This trichomonad has four flagella, with its undulating membrane attached at a point about half way down the body. The movements of the flagella and the undulating membrane make identification very simple. The flagellates are harbored in the rugae of the inflamed and thickened vaginal mucosa, and their growth is stimulated by fresh blood, which explains the recurrence of symptoms following a menstrual period. A smear should be taken to exclude gonorrhea.

Many methods of treatment have been used for this condition with variable results, indicating that nothing specific has been found. The patient obtains at least temporary relief with almost any of the popular forms of treatment, but most of them require daily office visits by the patients over several weeks' time or else daily douches at home. Many of the college students, treated by the writer at the University of Minnesota Health Service were unable to take douches because of their living conditions. Most of these were young girls and virgins. In treating them for *Trichomonas vaginitis* the vagina is cleansed with hydrogen peroxide solution, which readily removes the discharge and is non-irritating. The mucosa is then dried and entirely covered with a one per cent dispersion of silver picrate in kaolin using a Shelanski insufflator. The patient is then directed to insert a boro-glyceride-gelatin suppository containing two grains silver picrate for six consecutive nights and then to return for the second insufflation. This is in turn followed by the use of six more suppositories. This constitutes the "routine treatment" used.⁷ These patients were re-examined for five or six months and remained symptom-free. While in most of these cases the preliminary cleansing was carried out, there is some evidence that results are just as satisfactory if this is omitted. In two virgins, it was impossible to insert even a vaginal speculum because of the small opening and the marked irritation. In these the vagina was swabbed out with hydrogen peroxide, using an applicator, and this was followed by the insufflations of the powder. These two cases cleared up rapidly, but they were both acute and of short duration. In the majority of cases no trichomonads could be found and the patient was symptom-free after the first treatment. The smears were again checked in a

week, and also immediately following menstruation. If the patient started menstruating during her treatment no change was made in the method of procedure. In cases where any discharge persisted, even if the smears were negative and the patient was otherwise symptom-free, five grams of the picrate powder was again insufflated.

Infections due to colon bacillus are common after delivery and abortions, usually being due to a cervicitis. Spontaneous cures are frequent. Colon bacillus or typhoid vaccines may be used in chronic cases. The cervix may be cauterized lightly if the condition is chronic, using radial stripes with an electric or Post cautery. Staphylococcus infections are also usually postpartum or postabortal. The cervix should be treated with ten per cent silver nitrate or the electric cautery may be lightly used in chronic cases. A streptococcus cervicitis may extend beyond the cervix causing a parametritis or even a peritonitis. Electric cautery to the cervix may be dangerous resulting in a septicemia. Conservative treatment is probably the best, including prontosil⁸ which although new is apparently giving some very good results. Diphtheritic vaginitis is due to infection of the vaginal wall by diphtheria bacilli. It is characterized by small patches of membrane on the vaginal wall along with other signs of diphtheria. It is found especially in children and in the puerperium. Diphtheria antitoxin is specific but local treatments aid in relief of symptoms. *Monilia albicans* of the yeast group is rather a frequent cause of vaginal discharge, particularly in pregnancy and after the menopause. A diagnosis is made by a fresh smear or stained with methylene blue. The treatment consists of applications of a five per cent aqueous solution or two per cent gentian violet in 75 per cent ethyl alcohol and soda or hydrogen peroxide douches. Tuberculosis of the cervix is diagnosed by biopsy.

The second group of causes of vaginal discharge is the non-infectious type. We have first premenstrual congestive types due to ovarian dysfunction, where there is no erosion of the cervix or endocervicitis. These cases usually need no treatment. If an annoying discharge is present and an endometrial biopsy reveals a non-differentiating type, estrogenic hormone may be given and if non-proliferating, progestin may be of benefit. Discharge may be due also to courtship congestion, or may be due to cystic ovaries. We also have discharge in most pregnant women due to the enormous enlargement of the cervical glands. We may also have a local congestion in heart disease or kidney disease and certain forms of anemia, and in leukemia, degenerating uterine or cervical fi-

broids or cervical polypi. Ring pessaries which have been left in too long without being removed and cleansed may cause a foul vaginal discharge.

Senile vaginitis is often accompanied by a very profuse foul smelling discharge, which may excoriate the vulva and inner portions of the thigh. This type of vaginitis is favored by an atrophy of the vaginal mucosa with a concomitant disappearance of the normal vaginal flora. One or several areas of the vagina may be ulcerated resulting in adhesions which separate the vagina into several compartments or at times even obliterate the vagina almost entirely. Treatment of these cases consists in breaking up the adhesions and obtaining free drainage, and keeping the vagina open by boroglyceride or other medicated tampons. There may be a chronic low grade deficiency of Vitamin A which may be supplied by cod liver oil and a diet high in milk, eggs, fresh meat and butter.⁹ Good results are obtained by theelin in large doses of 2,000 to 4,000 rat units in oil daily over a period of two to four weeks. Following this, floroquin may be used with acetic acid douches (three tablespoonfuls of vinegar to two quarts warm water) or corn starch may be dusted into the vagina by any appropriate method. In girls, hypoparathyroidism often produces a calcium deficiency, resulting in a transudative vaginitis.¹⁰ Administration of parathyroid extract and calcium in proper doses often effects a cure. In a number of cases of this type of discharge treated by the writer at the University, calcium therapy alone has given very good results. Malignancy must be considered as a cause of vaginal discharge but its treatment will not be discussed here because of lack of time.

CONCLUSIONS

1. From 40 to 60 per cent of the female patients who consult a physician, complain of vaginal discharge.
2. Vaginal discharges are of two types, infectious and non-infectious.
3. Gonorrhea and *Trichomonas vaginalis* are the two most common causes in the infectious group. These should be carefully differentiated but they may occur simultaneously. Conservative treatment of acute gonorrhea gives the best results. Treatment with Corbus-Ferry filtrate or by hyperpyrexia is still in the experimental stage. Silver picrate is a valuable method in the treatment of *Trichomonas* vaginitis.
4. Gonorrheal vaginitis is more severe in children, nullipara and postclimateric patients than in married women of the childbearing age.
5. The treatment of the female urethra should

not be neglected in cases of chronic gonorrhea. Dilatation often effects a cure.

6. Senile vaginitis may be very stubborn. Breaking up of adhesions, administration of theelin or other estrogenic hormones may be necessary to obtain a cure.

7. Transudative vaginal discharges may be the result of parathyroid and calcium deficiencies.

835 Medical Arts Building.

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FATAL MENSTRUAL HEMORRHAGE IN ADOLESCENCE

JULIUS S. WEINGART, M.D., Des Moines

Presented Before the Third Annual Clinic of Mercy Hospital,
Des Moines.

Profuse menstrual bleeding during puberty is not uncommon. Resulting death is, however, so rare that we are likely to regard it as impossible. Although the case cited here is one of the very few which end tragically, it may serve to put the physician on his guard and warn him against minimizing the danger.

CASE REPORT

The patient was a young girl, thirteen years of age. She had developed normally. There was no history of blood dyscrasia in her or in any of her family. Her first menstrual period occurred one month ago. There was only slight flowing for one day. Her second period began three days ago. The flow was very profuse. Even large clots were passed. Physical examination, including vaginal palpation, showed nothing abnormal. On the third day her condition became alarming. She had a few convulsive seizures. She was moved to a hospital, and while preparations were being made for blood transfusion, she had another convulsive seizure and expired. This was the history given to me when I was called to perform the postmortem examination a few hours after death, on April 11, 1936.

POSTMORTEM FINDINGS

The body was that of a young white female thirteen years of age. No embalming had been performed. The body was well and normally developed, that of young womanhood in the flower of adolescence. There were no external marks of injury or of any other significance. The skin and mucosae were very pale. On opening the abdominal cavity, the peritoneum was found smooth and shining. About thirty cubic centimeters of somewhat bloody fluid were in the pouch of Douglas. The uterus was of normal size. The Fallopian tubes were entirely normal. The ovaries appeared normal externally. On section, no corpora hemorrhagica or lutea were seen. Two or three small cysts, filled with clear fluid, occupied a fourth to a third of the mass of each organ. A blood clot still lay in the vagina. The mucosa was rugose, of the virgin type, and very pale. It was free from any wound or tear. The endometrium was thickened. One or two very tiny clots were adherent to it near the internal os. There was no ulceration, nor any open blood vessels which could be identified grossly. The cervix was entirely normal. The heart was found normal in every respect. The lungs were crepitant, and showed only some hypostatic congestion at their bases. The liver was of a light tan color, and practically bloodless. The gastro-intestinal tract was normal. The adrenal glands were normal. The kidneys showed extreme pallor, but were otherwise normal. The urinary bladder showed a normal, but very pale mucosa. It was not judged necessary to open the cranium.

Microscopic examination of the uterine mucosa showed a marked hyperplasia. The glands had a high columnar epithelium, were tortuous, and, here and there, were cystic. In places the epithelium was desquamated, and the interstitial tissue very loose. The picture was that of endometrium in the folliculin phase. Sections of the ovaries showed the cysts noted on gross inspection. One of these was lined with a shallow layer of granulosa cells. One small corpus albicans was found, but no corpus hemorrhagicum or luteum. Since the chief finding was the pallor of all the organs, the conclusion was unescapable that death had been due to an acute anemia from uterine hemorrhage. The fact that actual bleeding points were not identified did not exclude this, for intense bleeding may occur from very small vessels. The convulsive seizures were undoubtedly due to cerebral anemia.

DISCUSSION OF THE PATHOLOGIC PHYSIOLOGY

Our understanding of the endocrine mechanism involved is much clearer since the research work

of the past few years on this subject. It is evident that this is the typical picture of what we may call a hyper-folliculin-ism. I use the term folliculin, rather than its synonyms, estrin and theelin, since the name bespeaks its origin, the liquor folliculi of the Graafian follicle. The death of the ovum, with failure of ovulation and hence the absence of a corpus luteum is profoundly significant, for the hormone produced by this body has some moderating effect upon the uterine mucosa. In its presence menstruation pursues a normal course. Under the unimpeded stimulation of the follicular fluid, however, menorrhagia occurs.

SIMILAR CASES REPORTED

Fatalities from menstruation at or near puberty are rare. No mention of such an eventuality could be found in any of the standard compendia of gynecology. No physician of the many whom I questioned had encountered such a case. However, Dr. E. von Graff, then of this city, had heard of one, and related to me the following case history. A Turkish family, residing in the Balkans, brought their young daughter to Vienna, because of intractable menorrhagia. They were much alarmed, because her older sister had died from menstrual hemorrhage at her first period. A search of the literature of the past eighty years shows only about twenty reported cases of fatality from menstrual hemorrhage during adolescence. In over half of these the lethal bleeding was during the first to third menses.

In 1858, d'Obre reported the case of a girl, fourteen years of age, who died on the twentieth day of her first period. Autopsy showed a softened uterine mucosa and many ecchymoses. The findings were otherwise negative. In 1861, Roche reported a similar case, death during the third menstrual period, in a healthy girl seventeen years of age. In 1878, Egan reported the case of a girl thirteen years of age, "subject to epistaxis, which had reduced her to a very anemic state. Three months after her thirteenth birthday menses began. As other girls of the family usually had menses of eight days, no medical advice was asked until the fourteenth day." The patient was found to be markedly anemic, with death resulting on the sixteenth day. No autopsy was performed. Egan did not regard his patient as having any blood dyscrasia. In 1880, Duncan wrote a paper entitled, "On Spontaneous Dilatation of the Virgin Uterus," basing it on a case of fatal menorrhagia in a girl seventeen years of age. A clot was found in the uterus. No signs of miscarriage were evident. The next report was by Rakeyeff, in 1896, of two cases in girls fifteen and sixteen years of age. Each died from hemorrhage on the fifteenth day of the first period.

The following quotation, made in 1910, shows how unusual such a fatality was considered. "Dr. Milliken, of Hamilton, Ohio, related to me the case of a young girl who actually bled to death during the second year of her menstrual life. She began with metrorrhagia and in a few months the flow was continuous and resisted all the efforts of the physician to check it. When seen by Dr. Milliken in consultation, the patient was moribund. No autopsy was permitted and the cause of the hemorrhage was never discovered, but the doctor felt justified in eliminating causes depending on pregnancy." In 1914, Coe reported the case of a girl thirteen years of age. The first menses had been irregular and painless; later, they were profuse. This persisted for several months in spite of medication and astringent douches. Examination under anesthesia showed the uterus to be small and in a normal position. After a few months of improvement the menorrhagia returned. The pathetic sentence follows, "The child died under distressing circumstances." At autopsy, the cystic condition of the ovaries was noted.

In 1925, van Vugt described the case of a girl, sixteen years of age, who died one week after the onset of her second menstrual period. There was a history of some tendency to bleeding. The patient acquired skin ecchymoses from slight trauma, and had frequent nosebleed. There was deficiency of platelets, and coagulation was delayed. She had also been treated for congenital syphilis. van Vugt suggested thrombocytopenic purpura or, possibly, syphilis as the ultimate etiology. It is more likely, however, that this also was due to endocrine factors. Profuse menstrual bleeding was likely to be blamed on a blood dyscrasia.

In 1927, we have a passing note by Graves, who, in discussing the menorrhagias of adolescence, said he remembered two or three fatal cases. He presented no details of the cases, but assumed they were due to thrombocytopenic purpura. In 1928, Fleischmann reported a case of death from menstrual bleeding in a young woman twenty years of age. Autopsy showed a large uterus with a thickened, hemorrhagic mucosa with many wide capillaries. At the same time Weibel reported a similar case in a girl fifteen years of age, and also the control of menorrhagia in a girl of the same age, whose sister had died of the condition. This latter case was the one cited to me by von Graff.

In 1929, Plaut reported a death from menstrual bleeding at the first menstrual period. Physical examination, including vaginal, had shown nothing of significance. Death occurred on the sixth day. There was no autopsy. Plaut noted in his article the great scarcity of such cases in the litera-

ture, and was able to find only three similar to his, going back as far as 1858. He cited d'Obre's as the first. From Kermauner, he cited the case of Lihotzky, a girl fifteen years of age, who bled to death on the twelfth day of her first menstrual period. He also quoted Fischer, who, in an address before the Gynecological Society of Vienna, reported two cases. In one of these the excessive bleeding was attributed to hemophilia, in the other to morbus Werlhofii. Fischer also reported a case of Pincus, a girl fifteen years of age, who died from hemorrhage at her first period. She was also considered a bleeder.

Finally, the dawning light of the understanding of this condition is seen in a paper by Münzesheimer, in 1930. His case was that of a girl seventeen years of age. The onset of menstruation had been at fourteen, and there had been marked menorrhagia, eight to fourteen days without bleeding, then periods of two to eight weeks. The autopsy findings were that only the basal parts of the uterine mucosa were present and these stained poorly. The ovaries were cystic. The following table summarizes the reported cases. Thus we see that death from menstrual hemorrhage, though rare, is possible.

TABULATION OF REPORTED CASES

Year	Reported by	Age	Menses	Death on
1858	d'Obre	14	First	20th day
1861	Roche	17	Third	Not given
1878	Egan	13	First	16th day
1880	Duncan	17		Not given
1896	Rakeyeff	15	First	15th day
		16	First	15th day
1910	Milliken		Second year of menstrual life	Not given
1912	Lihotzky	15	First	12th day
	Fischer		Two cases, details not given	Not given
	Pincus	15	First	Not given
1914	Coe	13	First year of menstrual life	Not given
1925	van Vugt	16	Second	7th day
1927	Graves		Two or three cases, details not given	Not given
1928	Fleischmann	20		Not given
	Weibel	15		Not given
	von Graff	15	First	Not given
1929	Plaut	12	First	6th day
1930	Münzesheimer	17	Third year of menstrual life	Not given

1208 Bankers Trust Building.

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PROGRESS IN THE MANAGEMENT OF PARANASAL SINUS DISEASE*

GEORGE C. ALBRIGHT, M.D., Iowa City

In a field as large as that suggested by the above title, it may be well at the very outset to establish arbitrary boundaries. For the purpose of this discussion, paranasal sinus disease shall be confined to infections. The period of time to be covered, except for the historical phase, will be short. Knowledge of paranasal sinuses as a seat of disease and the diseases of those structures, is fairly recent. With the rise of modern rhinology in the early 1880's, there was a concomitant rise in interest in the sinuses. That interest has persisted until the present time. Under management shall be included those procedures which have had for their objective removal of the disease process and the restitution of the nose and sinuses to normal functional activity.

What are the criteria by which we shall judge whether or no progress is being made? These are three. The first is an affirmative answer by rhinologists, to the following questions. Do we understand nasal pathology and physiology better; is restitution to normal procured more quickly, more frequently, and with less disturbance of nasal physiology; and once recovery seems secured, are the structures left in such condition that future invasions can be effectively combated by Nature, and the rhinologist not be handicapped by the results of the measures that have been employed? To each of these questions, we judge a definite, affirmative answer can be given. This judgment is based upon a review of the literature of the past fifty years: first, literature presenting

purely scientific aspects of sinusitis, from which one is left to draw his own conclusions; and second, upon the "confessions" of our "elder statesmen" colleagues. For example, Wright¹ wrote: "The period of my activities, covering as it does more than twenty-five years, * * * witnessed the absurd exaggerations of notions as to the frequency with which sinus disease requires surgical intervention, and the rash resort to devastating destruction of nasal structures in operative measures designed to afford relief to affections more or less trifling in themselves. It experienced * * * the disappointments of too enthusiastic operators and too credulous patients. I saw reputations, world-wide in the narrow domain of our specialty made out of a manual dexterity perhaps, but also out of an intrepidity of spirit which often encroached too much upon the rights of humanity and too often disregarded the precepts of conscientious professional conduct." To these may be added some twenty-five years of personal observations and experience.

The second criterion by which we are to judge if progress is being made, must be the intelligent, considered attitude toward our procedures, held by our colleagues, the internist, the pediatrician, the general surgeon and the psychiatrist. Some rhinologists have had patients referred to them for examination, who have brought with them the internist's advice, "Do not have your sinuses operated upon." No one likes to be limited by such an injunction, but let us answer fairly to ourselves, "Have we merited this lack of confidence?"

The third criterion may well be the past and present attitudes of our patients toward procedures recommended by us. Are they being accepted with greater confidence and approval?

HISTORY

Anatomy and Development

The present is nearly always made more interesting and more profitable when compared with the past. Although our conception of the nasal sinuses and their diseases dates from only very recent times, scant references to their existence, and to conditions, which in the light of present day knowledge may be regarded as references to sinusitis, can be found in the writings of medical men for centuries. Hippocrates (430 B. C.) may have had reference to sinusitis when he wrote this aphorism, "In a person having a painful spot in the head, with intense cephalalgia, pus or water running from the nose, or by the mouth * * *, removes the disease." Galen (260 A. D.) referred to "the porosity of the bones of the face for lightness." Although he did not mention the sinuses, Vesalius (1542) and Fallopius (1600) both

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indicated they believed Galen knew about the sinuses. Berengarius (del Carpi), professor of surgery at Bologna from 1502 to 1527, described the sinuses and is generally credited with being the first definitely to indicate their existence. Vesalius² (1542) described the maxillary, frontal and sphenoidal sinuses and asserted that they contained nothing but air. Ingrassias (1563), a Spaniard, first described the anterior ethmoidal cells. He compared their structure to pumice stone.

After Berengarius' and Vesalius' description, no noteworthy addition was made until 1600. Then Fallopius³ thus described their development: "There is no sphenoidal cavity in children until they arrive at maturity. It begins to form after the first year. Those cavities, contained in the frontal and cheek bones, are not to be found in the skulls of the newly born." The sixteenth century surgeons were familiar with wounds of the sinuses, especially the frontal, and how sinus inclusion in the wound might complicate healing. Paré (1564) warned against trephining the frontal sinuses as "they are filled with white sticky fluid as well as air. It is necessary for the surgeon to become acquainted with the cavity, which he can do by breaking open several heads of the dead." Hildanus (circa 1550) commented on wounds involving a sinus healing slowly and "often developing fistulae." He also made what appears to be the first reference I have found to a complication of sinusitis—orbital abscess. "I have seen acrid and corrupted pus which flows from these cavities (fistulae) fall upon the conjunctiva and push the eye out of place."

Physiology

The study of the function of the sinuses seems to have followed, rather tardily, the study of their anatomy. The Galenic view that all secretions came from the brain, reaching the nose through the cribriform plate or the anterior lacerated foramen, led many to believe that their only function was to give lightness. Some other views obtained. Paaw (1633) thought the "cavity (frontal) is to receive air to prepare it for the brain. Unless properly prepared the ingress of this crude air * * * causes catarrhal troubles of the brain." Veslingius (1637) sounded a modern note when he said, "There is much doubt as to their use. Each forms his own conjecture. Some, as Placentius, claim they contain much mucous humor, humor which is distilled into the nares; others that they make the voice more resonant, because in those who speak badly, they are not found. Some think they are for generation of animal spirits. Spigelius thinks they are for drawing in the odors. Others think they contain moisture and humor by which the eyes are lubricated." Reed (1642)

thought the frontals held odors before transmitting them to the brain. Boerhaave (1751-57), a century later, supported this view, asserting that "the acuteness of smell depends largely on the size of the frontal sinuses." He added, "They act as reservoirs for the nasal secretions." He linked Fallopius' observations on the development of the sinuses with the idea of their reservoir function by the following logic: "The reason children's noses are always running is because the accessory sinuses are not developed enough to contain the mucus." Although stored in the sinuses, the mucus was still generally regarded as a secretion of the brain. Reininger (circa 1765) added another idea when he said, "The sinuses are so arranged as to the nasal cavity that whatever position we are in, their contents will drain out of one or more of them, collecting in others until they in their turn are emptied by a change of position." This indicates his belief in postural drainage. Weinhold (1783-1829) thought the sinuses were cavities "which suck the impurities out of the blood and hold them." He regarded the sinuses as "an equalizing apparatus of the arterial system."⁴

Pathology

Hippocrates' reference to cephalalgia and its relief by drainage has already been noted. With such divergent views of the functions of the nasal sinuses, it is no wonder that little is found about their pathology. Fernelius⁵ (1497-1538) made what is perhaps the first reference to sinus suppuration. "There form sometimes abscesses around these places (sinuses), without fever or very much pain, and after their rupture I have seen true pus run in abundance from the nostrils * * *, and this without prejudice to the general health." Highmore (1651) after describing the maxillary sinus, mentioned a case of suppurative disease of the upper jaw, which he regarded as secondary to bad teeth. Malinetti (1675) described a case and the operative procedure thus: "In a patient suffering from terrible pain, they made a crucial incision on the jaw, and with the crown of the trephine penetrated into the antrum of Highmore, which was the seat of the abscess." One of the most unique, yet repulsive, types of pathology early noted was the presence of worms in the sinuses. Beniveni (1507) related the case of a patient who "suffered atrociously with such pain in his head that his eyes grew dim, his mind wandered, vomiting occurred, the voice was lost, the body was cold, and even life itself seemed lacking; but when death really seemed imminent and there seemed no help, he suddenly passed from his right nostril a worm as long as a palm's breadth and of a most robust nature, and all his anguish was relieved." This, incidentally, may be

regarded as the first reference to mental symptoms caused by sinus trouble. Many other references by Morgagni, Littré, Magnetus, Cloquet, Vallisnieri and Fernelius tell of worms in the sinuses and experimental work on sheep for their removal, mostly surgical procedures. It remained for the great Boerhaave (1564) to describe a "cure for worms." "There was the distressing example of a girl of Rotterdam, whose six pituitary sinuses were all full of worms, which kept on growing and appeared from hour to hour; and this girl I cured by a slight fumigation with cinnabar and a decoction of tobacco in water, which, being snuffed up into the nose, obliged the worms to move their quarters."

To attempt to follow the tenuous thread which ties the rhinology of Vesalius, Highmore and Boerhaave with that of our time, would be wearisome to you. Sufficient details have been given to portray the rather hazy, yet at times startlingly clear, concepts these ancient physicians had. They were the leaders of their times. With the beginning of modern rhinology (1880's), the study of the accessory nasal sinuses early assumed an important place. Since 1860 an increasing number of details of normal anatomy and of normal and abnormal variations have appeared in our works on osteology of the head bones. Clinically more and more visible nasal pathology, polypi, pus, hypertrophic conditions, were assigned to accessory nasal sinus origin. Names familiar to all of us began to appear above articles dealing with the sinuses, methods of examining them, and their diseases. Killian, Schmiegelow, Mikulicz, Lichwitz, Bosworth, Schaeffer, Grunwald, Zuckerkandl, to mention but a few, made important and permanent contributions to our present day knowledge of the sinuses, their structure, their form and their diseases, especially suppurations. Transillumination in 1889 was suggested by Heryng, and except for improved mechanical devices to enable better inspection of the nasal chamber, was the only advance in preoperative diagnosis until the advent and development of the radiogram. It will not be misconstrued to observe that the percentage of diagnoses made postoperatively was greater then than now. Postmortem examinations, then as now, served to clarify many an obscure diagnosis. Schalle⁶ in 1877 described a non-disfiguring method of postmortem examination of the sinuses. Zuckerkandl,⁷ 1882, published the work that guided operating rhinologists for over thirty years. Hooke,⁸ in 1891, and again in 1896 with Dmochowski⁹ and E. Fraenkel,¹⁰ did a great deal to extend our knowledge of the pathology and bacteriology of the sinuses. These men found that a large proportion of cases showed evidence of unsuspected

latent disease of, or purulent collections in, the antrum. Von Besser¹¹ in 1889 demonstrated pyogenic organisms in the normal maxillary sinus. These seem rather delayed confirmations of Fernelius' observations.⁵ This was that period of which Wright wrote, the period "of absurd exaggerations of notions as to the frequency with which sinus disease required surgical intervention." Though hard on the patients, we owe a great debt to those former rhinologists who by their "intrepidity of spirit" did so much to advance our knowledge of the anatomy and pathology of the nasal sinuses. They gave us information which was, until the perfection of radiographic technic, otherwise impossible to obtain. We may deplore their zeal, we may condemn their "disregard of human rights," but we must also profit by their experience.

ANATOMY VS. PHYSIOLOGY

A decade after the turn of the century (1910) brings us to a time well within the professional years of our less youthful members. Up to this time, progress had followed anatomicopathologic lines. It was the great era of removing pathology by improving anatomy. Nature had misplaced the ostium maxillare. Therefore, if disease was present, make a new, properly located, opening; if a sphenoid was not draining properly, enlarge its opening downward until no secretion could be retained; if a frontal was diseased, enlarge the nasofrontal duct; or, if severe and chronic, remove the outer wall and enlarge the nasofrontal duct; if the ethmoids did not drain properly, remove them. Theoretically not a single cell was to be left in situ. The knife, scissors, the snare, trocar and curet were used freely, and yet rhinologists admitted failure. At first, firmly convinced of the soundness of the surgical approach, they sought to turn failure into success by employing still more radical surgery. Wright's criticism, "rash resort to devastating destruction," has already been given. Other eminent rhinologists freely condemned their own and their colleagues' methods. Eugene R. Lewis¹² said, "There is little doubt that many so-called 'sinus cases' after undergoing long series of operative treatment (and non-operative, too), find themselves not only no better, but definitely worse." He quoted Mosher, who, speaking of slight sinus cases, said, "Gentlemen, you can make them continuous cases; and by operative interference you can make them permanent cases." "Once a sinus case, always a sinus case," was more than a mere slogan.

Skillern¹³ said, "We have already learned that by applying surgery, we have only been cohabiting with chimeras and begetting specters, for who

indeed ever contemplated an ethmoid region some months after a so-called complete ethmoid exenteration, with its conglomerate mass of hypertrophied and scarred mucosa, fibrous tissue and bone, bathed in pus, and carpeted with crusts; who has not indeed seen a specter, and a very horrid one at that, particularly if he himself has performed the operation." Perry Goldsmith (1925) said, "Recourse to surgery is usually a sad disappointment; attempts to probe or irrigate the frontal sinuses are likely to do more harm than good."

Unfortunately, as we now see in retrospect, two serious obstacles to success were not considered; first, the anatomic variations of the sinuses; and second, the destruction of the normal physiologic defense mechanism. Hoping to find the reason why so many "sinus operations" resulted in failure, and still clinging to the anatomic point of view, rhinologists (in Iowa at least) turned to the anatomist for an explanation of their failure. Anatomic treatises bearing the imprint of the 1870's to the 1890's, usually presented stereotyped normal sinuses, varying little in extent or shape. Gray's edition of 1870 mentioned no variations in any of the sinuses except the sphenoid, and in that sinus attention was called only to deviations of the partition between the two sides. By 1910 many of the present known variations were familiar to rhinologists whose continued efforts to institute drainage and ventilation in sinuses shown by the x-ray to be so extensive and so placed that such results would be foredoomed to failure, may well be characterized as "The triumph of hope over experience." Patients suffering from pansinus suppuration would submit to operation after operation, hoping that the "overlooked cell" would be discovered and exenterated. In many cases success did ultimately succeed failure; to many others came the final advice, "nothing but a change of climate will benefit you."

The younger men just entering the field of rhinology came in with questioning minds. Thoroughly schooled in anatomy, they returned to the laboratory. From thence came specimens; sphenoids that extended into the greater wing, into the lesser wing, into the body back to the foramen magnum and even involving the occipital bone; ethmoids extending into the orbital plate as far as the zygoma, or beneath the orbit laterally to the same degree, encroaching above upon the recognized frontal domain, orbital sinuses, single and double; frontal sinuses likewise extending into the roof of the orbit, or down into the maxillary sinus, into the middle turbinate; or the sinus of one side extending in front of its fellow opposite, making a double frontal on one side; maxillary sinuses, small, thick-walled, placed high above the nasal

floor; or large, thin-walled, extending down into the alveolar process; variations apparently without end. The local (Iowa) findings were corroborated by Hajek, Skillern, Onodi, and Davis. One reason for failure became apparent, adequate drainage in such cases by operative measures was absolutely impossible. How then might drainage of these anomalous sinuses be secured? How had anatomically normal sinuses recovered from infections in centuries before operative rhinology was devised? How did those cases of sinus disease in which operative interference was refused, sometimes spontaneously recover?

The search for the answer to these questions brought thinking men to a recognition of the second great obstacle to success, which they had ignored in the era of surgical therapy. The nose and the paranasal sinuses in health and disease have certain physiologic functions. Disregard or destruction of those functions had stymied their greatest assistant, Nature's protective mechanism. It will be recalled that Schaller, Fraenkel and Von Besser had, in their postmortem work, demonstrated pathogenic organisms in the sinuses, yet no pathology. Why? They had also found evidence of healed pathology in the sinuses. Again, why? "Biologists and physiologists have been studying ciliary activity for almost a century. Rhinologists seem to have neglected the subject despite the fact that the combined scheme of defense afforded by the ciliary activity and the mucinous secretion involve one of the most outstanding physiologic activities of the nose."¹⁴ Hartz,¹⁵ Bryant,¹⁶ Bloomfield,¹⁷ Schaeffer,¹⁸ Yates,¹⁹ Phillips,²⁰ Hilding,²¹ Lierle and Moore,²² Proetz,²³ Lucas and Douglas,²⁴ and many others have studied the action of the cilia of the nasal mucosa including that of the sinuses, and have shown that the cilia of all sinuses so move that foreign material in the sinuses is carried toward their ostia, and through them into the nasal cavity, and on back into the nasopharynx. Bacteria are thus carried on the mucous sheet, out of the sinuses and nasal cavity. Not only does the action of the cilia tend to move the normal mucous sheet toward the ostia, carrying with it the invading organisms, but should the invasion prove overwhelming and frank pus develop, once the general defensive forces of the body enter the picture, the ciliary action tends to evacuate the accumulated pus, no matter what the anatomic variations may be. Manifestly then, ciliary activity and mucinous secretion are two defensive factors that should be preserved. This is the physiologic viewpoint, in marked contrast to the anatomicopathologic one: preservation of the normal defense mechanism instead of attempting to correct such anatomic mistakes as Nature

had made, thereby hoping to secure drainage by gravity.

Obviously any form of therapeutics that contravenes Nature instead of cooperating with her, is a move in the wrong direction. Operative destruction of the normal nasal mucosa, even though temporarily diseased, removal of the normal columnar ciliated epithelium, to be replaced by stratified, non-ciliated variety, tended strongly to nullify Nature's defense, and failed to provide any at all adequate substitute therefor. How have the older rhinologists reacted to this changed viewpoint? Lewis,²⁵ who for twenty years has opposed radical sinus surgery, says: "Respecting radical surgery for sinus trouble, there remains nothing desirable." Lewis lives in southern California, and is on the receiving end of a line of patients who have run the entire gamut of sinus surgery, and have drifted into southern California, "vainly hoping to substitute climate for lost function." Skillern,²⁶ speaking before an English group of rhinologists, said, "In those days (of radical sinus surgery) drainage was our Deity, the sine qua non of a successful treatment. A suppurating cell should not only be opened, but completely eradicated, destroying healthy tissue if necessary. Now, thanks to experience, this has all changed. We know Nature with a little assistance will do a far better and cleaner job." Stucky²⁷ reported, "Within the past three years I have been especially impressed with how little surgery is necessary to relieve the most complicated and serious condition." Kuemmel of Heidelberg said, "Except when the symptoms are most urgent, it is better to resort to the less radical procedure, which in a majority of cases is adequate and yields infinitely better results." Dean,²⁸ whose attitude toward radical surgery is well known to many of you, wrote, "Puncture of the antrum of Highmore in infants and young children is a routine procedure with us * * * in patients with adenoids. Since July last (written in September), we have punctured 140 antra in children." Speaking before the American Laryngological Association in 1921, he stated, "The removal of middle turbinates and the destruction of sinuses in these cases (children) have been justified by results." Compare this with a more recent utterance: "I have seen many cases of sinus disease in children become quiescent following a period of thyroid therapy. We no longer look upon a patient as one who must be operated upon; rather, we are devoting all our efforts to remove the cause and procure a more desirable result; we think of other procedures, radium, x-ray, ultraviolet light or infra-red, in our effort to secure for the patient the best possible result with the least danger."²⁹

Lyman Richards,³⁰ in a statistical study of 500 cases of sinusitis in children, observed in the Boston City Hospital, over a period of ten years, showed that 63 per cent of those receiving medical treatment (54 per cent of total number) were reported by questionnaire and follow-up as cured. Only 37 per cent of those receiving surgical treatment were reported as cured.

Davis³¹ says, "I have never seen a frontal sinusitis in a patient under fourteen years of age in which I felt any radical operative measures were necessary." Coates³² thus concludes: "It is a general impression that younger, less well-trained men are more radical; as one gets older ultra-conservatism develops." Lewis seems so well to summarize my own conclusions in regard to the changed viewpoint of rhinologists that I shall let him speak directly to you. "The mere finding of pus does not indicate that it will be there the next time you look. Suppuration is not permanent, nor usually even of long duration. It is a natural process of removal of great quantities of by-products of inflammation, which inflammation must be looked upon as a beneficent cellular reaction to undesirable local conditions. Under ordinary circumstances, such a natural process proves successful in handling the situation, and with the close of the episode, suppuration ceases and quiet is restored to the individual with the least possible disadvantage. Thus the local question of cellular viability under attack has been decided by the cells themselves, and the wisdom of such a decision transcends the wisdom of the greatest surgeon in the world."

A rapidly increasing number of rhinologists are coming to agree with this well considered conclusion of Lewis. Such being the case, there can be little doubt that we are making progress in the management of paranasal sinus disease.

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Discussion

Dr. J. J. Potter, Iowa City: A comprehensive survey of the history of the treatment of sinusitis; and a critical estimation and evaluation of present day methods is no mean task, and one which you have just heard very ably presented. Dr. Albright has shown how, from very humble beginnings, sinus disease management has advanced through the stages of extreme radicalism, until at the present time the pendulum has swung toward marked conservatism. Although the earlier pioneers, in the light of our present knowledge, perhaps have appeared overzealous, we should not be too critical or allow the reaction of this radicalism to bring us to extreme ultra-conservatism, which also contains many pitfalls. A subsequent generation may uncover knowledge that will again modify our procedures.

Speaking as one of the younger men with practice confined exclusively to institutional cases of indigent and neglected types, I believe that the conservative trend is evidence of progress in the treatment of sinusitis. During the year of 1936, a review of all cases of frontal sinusitis, numbering over fifty, showed that only five of these came to radical frontal operation; and of the operated cases some complication such as mucocele, osteomyelitis, draining sinus, or intracranial extension, was present. In cases of ethmoid and sphenoid disease, the decrease in operative procedures has been even more marked and often the middle turbinate has been left intact, as in the

Pratt operation. On the other hand, during the past six months, three cases of cavernous sinus thrombosis have been seen, each of which at autopsy, showed pus under pressure in the sphenoid with definite evidence of direct extension of infection through the roof. In this same class was one case of basilar meningitis and fifth nerve pain, in which the patient was free of all symptoms shortly after the removal of frank pus which was harbored in large post-ethmoid cells.

Acute osteomyelitis of the skull should be mentioned as one complication of sinusitis that requires especially radical surgical treatment. One case was seen this year in a woman, forty years of age, who had been under conservative treatment in Arizona for two years for her sinusitis, but because of no improvement, she had returned. Examination revealed suppurative pansinusitis with osteomyelitis, extending from the frontal sinuses, and involving the anterior two-thirds of the skull. Subsequent autopsy showed localized meningitis and brain abscess. This spring there have been three cases of frontal lobe abscess showing direct extension from frontal or anterior ethmoid region, one of which was in a seven year old child.

A survey of sinusitis in diabetic children in the Children's Hospital, done in 1931 by Dr. Lierle and myself, bears reviewing. Of 407 cases, 171 diagnoses were made of chronic suppurative paranasal sinusitis. In this group, sixteen antro-meatal operations were done with definite increase in general health and sugar tolerance in each case.

In conclusion, I would feel with Dr. Albright that the increase in our knowledge of physiology and anatomy of the sinuses has rightfully tended to make us more conservative. Fortunately our diagnostic technics have kept pace with the other advances so that today, the fundamental basis of all treatment, i. e., an accurate concept of the location and severity of the disease, and the possible results we can expect from surgery, are the factors indicating whether our procedure should be radical or conservative.

Dr. Henry G. Langworthy, Dubuque: This is an important paper, one of the best of the section meeting so far and with its discussion lays the groundwork for what we must know. It checks up with our actual experiences. What are the advances of the past twenty-five years in this subject? The answer is by no means clear. Among others I would list two as being very important. First, in severe multiple sinus cases, after one operation has been performed the first winter, let us say, if another severe head infection occurs the second season, a very small amount of intranasal work should be sufficient to tide the patient over and make him comfortable, sometimes for years. It should be our aim, if we must operate, to devise a sinus operation so that the second surgeon handling the case will be able to treat the patient medically and not feel impelled to operate again two or three or more times. There are too many indiscriminate nasal sinus operations being performed which do not cure the patient and may indeed leave him in a less favorable position

than before the surgery was performed. Multiple nasal sinus operations are rarely indicated except for rather desperate situations. Second, I would list as important, the necessity of watching the case and trying to prevent future acute so-called influenzal infections, so as to prevent relapses and trouble every season. This may be attempted by fall or winter administration of stock influenzal vaccines, removal of chronic infected tonsils, and the many things that seem to help avoid acute nasal inflammations. In closing, I would say in the light of present knowledge, that these conservative aspects, with a more careful study of the patient's head and environment, should help materially in making better decisions and in handling the cases of the future.

Dr. J. B. Gregg, Sioux Falls, South Dakota: If we compare carefully the methods of treatment and the end results obtained in the treatment of sinus infections twenty years or more ago, with those of today, there should be no question but what some progress has been made in the management of paranasal sinus disease. The trend has been toward more conservative treatment which results in as nearly normal a nasal condition as possible. Undoubtedly many needless, intranasal mutilating operations have been done to provide ventilation or wide drainage for sinuses whose condition was causing only minor local or general symptoms. More time and thought expended for diagnosis, and less time and effort expended in operations and treatment, would often redound to the benefit of the patient. We have all seen patients in whom the sinuses have been drained because of symptoms and physical findings which should have pointed toward brain tumor, migraine, neuritis or nasal allergy. We have also had our disappointments in the nasal treatment of those patients with asthma, arthritis and retrobulbar neuritis. We have failed at times to realize that surgery of the sinuses is not comparable to the removal of a tooth or a tonsil or to the drainage of an abscess cavity. A sinus has a lining of ciliated epithelium with its ability to expel secretions. The sinus with a moderate opening retains its moisture and thereby enables the cilia to keep it clean. The preoperative patient with a moderate purulent secretion plus moisture and posterior drainage is just as healthy as the postoperative one with purulent secretion which dries, crusts, smells and cannot be expelled. Each sinus infection is an individual problem which must be solved by the conscientious rhinologist. We shall continue to see sinus infections where simple intranasal drainage or correction of an intranasal block will be required; but if we bear in mind, as Dr. Albright has indicated, that the successful treatment of a sinus infection includes not only the elimination of the infection, but also the restoration of the nose and sinuses to their normal function, we cannot do other than come to the conclusion that as long as the infection is cleared, with the minimum amount of surgery, the better it will be for the patient.

Dr. Albright (closing): Thank you, Dr. Gregg, Dr. Potter and Dr. Langworthy for your discussions.

In emphasizing the conservative attitude toward the management of paranasal sinus disease, the impression must not be given that rather drastic operative measures are not occasionally required. When required, they should, of course, be invoked. The type of conservatism which I have tried to advocate is well expressed in the old couplet of Pope's, "Be not the first by whom the new is tried, nor yet the last to lay the old aside."

SURGICAL ASPECTS OF OBSTETRICS*

J. C. DONAHUE, M.D., Centerville

In the short space of time allotted me, I do not intend to enter into any controversy concerning the merits or demerits of many of the following obstetric procedures. Many or most of these surgical steps warrant a free and comprehensive discussion, which time does not permit.

This is not intended for the especially highly trained obstetrician, but for the rank and file of men on the "firing line," who, contrary to the opinion of accepted skilled operators, are doing creditable obstetrics, in a field neglected, mismanaged, misunderstood, and in this enlightened area, still encompassed by primitive thought, procedure, and ancient mysticism. May I be so bold as to disagree with our learned teachers and operators, that the fault lies not with the doctors but with the laity, for our poor obstetric results. The present day physicians are not inexperienced; they have had excellent training, and a vast majority of practicing physicians at this very time are graduates of reputable schools, equipped in their day for the adequate teaching of ordinary obstetrics. Why then, if medical knowledge has improved, has not our mortality and morbidity rate shown a decided change for the better?

My own personal answer is that people as a whole, and especially those having babies, know very little more today than they did two hundred years ago. With all of our clinics, our missionary work among the people, present day newspaper publicity, public health nursing, our knowledge of prophylactic obstetric service, diet, etc., we have made only a slight beginning at the root of the evil; that is, the expectant mother and her surroundings. Therefore I say the fault lies not with the doctors but with the patients. This seems sad in the face of the many millions of dollars spent annually to improve motherhood, but nevertheless, it is a fact. Until this is corrected, no great change will take place in obstetric practice. No medical training, however extensive, will change this condition, and the sooner we as doctors, and our schools of medical teaching, in fact as soon as our

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entire medical army recognizes this fact and corrects it, and not before, will there be a decided improvement in our obstetric practice. It is time to put away the obsolete, moth-eaten excuse of inefficient obstetric knowledge and place the cause where it justly belongs. Whether this reason is economic, mental, or territorial, I do not know; but in some way we must educate the laity to know that pregnancy is a disease and should so be treated, as any other serious illness.

Of necessity obstetric surgery implies hospitalization. Surgical repair of lacerated perineums, in my opinion, is not even successful in the average Iowa home where babies are born, so why expect to obtain beneficial results from episiotomies, if done? There are many exceptions to the rule, no doubt; but as long as 60 per cent of Iowa mothers are delivered in their homes, we will be called upon to treat obstetric injuries, or even obstetric invalidism. Even though hospitalization is an impossibility for some doctors and many mothers, nevertheless, I believe that much can be done to decrease the mortality and morbidity rates in home deliveries, through obstetric surgical help, provided the homes can be so equipped that these steps are justifiable. The room, the bed, the furnishings, and above all, the after-care of these mothers, should be so arranged that minor surgery in these cases can be done aseptically. However, until we reach the place where this condition, known too extensively and with too many shrugs of the shoulders as "just a normal pregnancy," is given its rightful place in medicine and treated as a serious illness, we will have too many preventable obstetric accidents, and too many mothers unnecessarily physically handicapped throughout life, because of having been denied the advantages of obstetric surgery. The doctors are gradually accepting this idea, but we must now teach the lesson to the patient. I know this is being done, but it is being done unsuccessfully. This may be a bitter pill to take, but nevertheless it is true, and the sooner it is recognized, the better for us all. It would be interesting, if it were possible, to procure results in the higher classes of life to compare with those from the middle classes. Not that those in the higher walks of life—I do not necessarily mean the rich, but rather the intelligent—have access to better doctors, because the majority of these babies are still delivered by the family physician; but they do avail themselves of all present day knowledge concerning prenatal and postnatal care, and govern themselves accordingly, and excellent obstetric results follow. This is not an excuse; it is a reason. I can offer no solution to the problem; I merely give it to you. As a profession we must attack it sanely and open-mindedly, for-

getting this age old teaching, a relic of the past, that the present day physician is inefficient.

The purpose of this paper is to call to your attention some of the surgical conditions which you may encounter as obstetricians; to condense for your approval and study in a short space some of the high lights of obstetric surgery. It is not my intention to comment at length on them but merely to freshen your memory and recall to your mind some things you know but perhaps have forgotten. I claim no originality in this essay. It is merely a condensation of obstetric knowledge of others, extracted for your approval, with a word here and there based on personal observation, experience, and association with other practicing physicians. Call them if you like, accidents of obstetrics; nevertheless they exist, even if only in few numbers, but no one dealing in this branch of medicine can afford to slight or mistreat them.

These surgical procedures may be confined to two main regions; first, the birth canal; and second, the uterus and lower uterine segments. The first is by far the more common and every one practicing obstetrics will have need for them. No matter how skilled an operator, you will be called upon to treat or at least should treat, about 75 per cent of your primipara delivered spontaneously, whether delivered in hospitals or homes. The aim and intention of every obstetrician is to return the birth canal to its original condition, following delivery, and to do this, some degree of surgical assistance is necessary in 75 to 90 per cent of the cases. Repairing of lacerations is nothing new to you, but I am wondering how zealously it is practiced by you. All lacerations are to be approximated and repaired, both so-called minor and major tears. It is a controversial point as to whether this should be done immediately or five to ten days following delivery. The choice of procedure depends upon the operator and his clientele. The important point is that all tears in the birth canal should be surgically repaired.

A procedure which is gaining ground at the present time is the operation of episiotomy. Personally, I believe that practically every primipara is entitled to this surgical help in a normal pregnancy; that is, a normal sized baby and a normal sized birth canal. Some degree of laceration will be present in 65 to 75 per cent, so it would be better to have a controlled, clean-cut laceration than a jagged, torn, irregular slit. If properly performed, it hastens the second stage of labor with good effects upon the general condition of both the babe and the mother. There are three major mistakes in episiotomy. First, a small nick is not an episiotomy, so make it deep; if in the midline, go down to the sphincter ani muscle; if medio-

lateral (and about 85 per cent are), go down to and even include some of the transverse perineal muscles. Second, do it early. An episiotomy performed after the perineum has been thinned out does not shorten labor, and too many times you have already had a submucous separation of the levator fibers, and an episiotomy at this time only adds a second laceration which will be repaired while the other one is overlooked. Advocates of the "ironing out" process of the posterior vaginal canal and outlet claim to obviate the necessity for this procedure. Personally, I am skeptical of this so-called ironing out process except when it is done by the most skilled, careful operator. Very few indeed take the time properly to iron out and none can say just when the levator fibers will separate. No amount of experience will tell an operator just how much strain each individual will stand. A properly done episiotomy will lessen 40 per cent with relaxation, 34 per cent with minor defects, and 10 per cent with major defects, presenting themselves for your examination two months following delivery. These figures are not taken at random, but are from a large hospital practice and from a teacher in obstetrics. The percentage in private practice in the homes would no doubt be far greater. Therefore my advice is to perform an episiotomy as soon as the head begins to make pressure upon the perineum. The third mistake in episiotomies as in repair, is the employment of catgut exclusively. There is bound to be a certain high preventable percentage of bad results if only this suture material is used. Twenty day chromic catgut lasts from four to six days in a perineal wound, and there may be some secondary closures to make unless two to three reinforcing sutures of non-absorbable material are employed. These sutures should be deep, and incidentally they do not act as channels for infection. It is unnecessary to add that the closure should not be made too snug, to compensate for edema and swelling, following with consequent injury to soft tissue. Apposition in normal contour by any of the classical methods will suffice.

The repair of old lacerations, cystocele, and rectocele operations, are surgical procedures for your judgment and consideration. They are being done successfully. Needless to say, it takes a skillful operator to distinguish normal tissue and tissue planes following delivery, and I would say that this procedure is justifiable only in the hands of the most skillful obstetric surgeons. Episiotomy obviates anterior vaginal wall injury and if properly done prevents postwall injury; consequently no cystoceles or rectoceles appear. Many times, an episiotomy will prevent submucous lacerations with consequent relaxation and semi-inva-

lidism. May I urge you to use this procedure on practically all your primipara? At least when you are in doubt as to submucous laceration or evident lacerations, cut; and do it wide and deep and early. Future pregnancies are no contraindication to this method.

Operations upon the cervix are becoming rare, and the indications for this procedure are few indeed. The rigid os was at one time treated by the incision of cervical tissue. Dührssen's operation, and the cervical cesarean section with application of the high forceps, have been supplanted by the low segment suprapubic cesarean section. Surgery of the cervix in obstetrics at the present time consists chiefly in the repair of lacerations. All irregular or deep lacerations should be repaired, but the argument today is whether this should be done at the time of delivery or at a later date. May I raise my feeble voice in favor of late repair in the hands of the ordinary obstetric surgeon? Nature is very kind to mothers, and many times what appears to be a deep laceration will happily upon later examination be found to have healed smoothly and adequately. However, for the sake of increasing malignancies of the cervix (two per cent increase per year), and the younger age at which they are occurring, a cervical repair should be made in every case in which one is truly indicated. No malignancies have ever been found in a cervix which was repaired, amputated, or adequately cauterized. This should furnish food for thought.

Mutilating operations upon the fetus continue to be surgical procedures in obstetrics. They must be included in any review of this type, and I mention them only to condemn them except in the very few properly indicated cases. Craniotomy, cleidotomy, evisceration, and decapitation, are not to be attempted in a pelvis with a true conjugate of five centimeters or less, or even 7.5 centimeters, and it is rare that a better obstetric and surgical procedure cannot be employed.

In the sense of this review the use of forceps does not constitute a surgical procedure, and will not be discussed.

So closes the usual surgical aspects of birth canal operations, which brings to us a consideration of the much discussed, too often employed, suprapubic cesarean section. Dr. Plass has painstakingly reviewed this operation for us and has added much to our obstetric knowledge. With 25,000 cesarean sections done annually in this country, and the number increasing each year, it is not the purpose of this paper to discuss the necessity of all these operations. There are, however, certain absolute indications for this procedure, whether one employs the classical operation

or the newer low segment operation, and I wish briefly to call your attention to some absolute indications for this surgical intervention.

1. First and foremost, may I impress upon you the necessity of a cesarean section in all who have had previous ones. Practically every man here today has had the experience, no doubt, of delivering a child through the normal channels in a mother who has had a previous section. Like myself, you did not know anything about the pregnancy until you were called to the house to find the fetus presenting, and then discovered that this mother had had a previous section. We do not enjoy these experiences, but nevertheless many do, and many more, no doubt, will present themselves and end happily for the mother and physician. However, the iron clad rule still holds true: once a cesarean, always a cesarean. There should be no exceptions and no deviations from this rule, even though this mother has gone through from one to six or eight normal pregnancies, the rule still holds and the indication is absolute. You are merely inviting disaster when you substitute any other method of delivery. Watchful waiting, in these cases, is a mistake, and sooner or later those employing this method will find it so, to their sorrow. Even though the indication for the preceding section is absent, the rule still holds, and for the sake of the mothers and for your own, may I leave this one thought with you; a cesarean is an absolute indication for future cesareans.

2. Contracted and deformed pelvis. These in certain limits well known to you, merit this surgical procedure; not the border line cases (these I leave to your own good judgment) but the absolute ones indicate section.

3. Extra-uterine pregnancies, which occur once in every 3,000 cases, require surgical intervention as soon as the condition is diagnosed. There is no justification in reviewing the symptomatology of ruptured ectopic pregnancy; suffice it to say, the operation should immediately follow the diagnosis. This is not so with intra-abdominal pregnancy. If the child is viable, you can operate at once; if the fetus is dead, you should wait, up to one month. In this way you will have less trouble with the separation of the placenta from its attachment. These two assertions probably raise some question, especially as to the time of operating upon a viable child. If you have any hesitancy in this matter, merely remember that only one in ten is normal, and so I again place this in your lap for your decision.

4. Rupture of the uterus, occurring once in every 20,000 cases, may be of two types; spontaneous or traumatic. Forty-two cases have been reported where injuries, such as falls and blows,

have caused this condition, but the large class of traumatic ruptures have been due to ill advised, improperly performed obstetric operations such as forceps and manual efforts in obstetric deliveries. Of the many things to be said concerning this accident of labor, there are two things I wish to bring home to you. In doing an internal podalic version which at first seems very difficult, and then suddenly becomes easy, *look out*. The great danger, uterine rupture, has ensued. Second, when there is a sharp sudden lancinating pain in the lower abdomen followed quickly by symptoms of shock and concealed hemorrhage; if pains cease or become feeble where previously they were severe, and the pelvic examination shows that presenting parts have receded, you have a ruptured uterus and a surgical emergency. Forty-five per cent die due to shock, hemorrhage, or peritonitis, or a combination of all three. The prognosis is better if the rupture occurs at the site of an old cesarean section. The operative procedure of choice is hysterectomy, as soon as possible, with transfusions before, during and after the operation, as the case demands.

5. Placenta accreta, occurring once in every 6,000 cases, should be surgically treated; that is, hysterectomy in those cases where there has been a deep implantation of chorionic villi so that the placenta cannot be removed without undue hemorrhage. Clawing off a placenta which shows no cleavage line is strongly to be condemned. It is true that 50 per cent of these cases will slough away, but I still consider it poor obstetric judgment to wait too long or to do any tearing, thereby aggravating a bad condition. Therefore, in those patients whose placentas do not separate after twenty-four to seventy-two hours, and who show no bleeding, it is good surgery to open the abdomen and do a subtotal hysterectomy. The mortality figures of 87 per cent with conservative treatment, and 14 per cent with radical treatment, justify this procedure.

6. Inversion of the uterus, in the beginning, is usually the result of poor obstetric care. Many patients are returned to the usual position immediately, but the common practice is to replace in vagina, with the patient in the Trendelenberg position, and wait at least one hour and not more than twenty-four, and replace and wait for the shock to subside. If not unfolded into normal position easily, laparotomy and restitution according to Huntington's operation is advisable. If this is not possible, then a hysterectomy may be performed. Blood transfusions, normal saline, and glucose may be freely used.

7. Placenta praevia. A painless uterine hemorrhage after six months practically always means

placenta praevia and hospitalization. Surgical intervention in these cases of central placenta praevia produces better results than conservative treatment, especially when the fetus is viable. Figures are two to six per cent mortality in mothers and 20 to 50 per cent mortality in the fetus as compared with 70 per cent fetal mortality in internal podalic version. Central placenta praevia, then, with a viable child is a clear cut indication for cesarean section. The small percentage of good results from palliative or conservative treatment is no excuse for the procedure.

8. Previous pelvic injuries. Occasionally one sees women where due to disease or injury the pelvis and especially the soft tissues are so distorted that normal delivery is not possible except with extensive loss of tissue, prolonged labor, and subsequent danger to the mother and child. These cases, in my opinion, justify a section, which if properly performed, will lessen the obstetric hazard.

9. Tumors. Cesarean section is definitely indicated in the presence of tumors so large or so situated that there is an undue impingement upon the birth canal preventing normal delivery. These should be easily diagnosed and should be treated by abdominal section.

10. May I ask your kindness in including one other condition which, in my opinion, is a clearly defined indication for section; that is, a mother who has had one or more difficult labors, although attended by experienced obstetricians, and who has lost all the babies. These situations do arise and many times cannot be accounted for, even after pathologic examination of tissues from the placenta, uterus, or ovaries. May I ask your permission then to include these rare cases under absolute indications for cesarean section.

Premature separation of the cord, toxemias, disease, especially cardiac involvement and tuberculosis, have sometimes been offered as indications for section; but with modern day facilities and experience, we have found solid conservative treatment, with intelligent watchful expectancy, a better plan. Your absolute indications are presented through your obstetric skill in diagnosis, and once made, watchful expectancy or obstinate resistance should not be your guiding star. When we consider for a moment that the birth of every child may necessitate the employment of some surgical procedure, we may then have some idea of the vastness of this field. Not that every baby born does need it, but nevertheless, every one is a prospect and any field of medicine that concerns and touches every one without any exception, is worthy of your consideration and study. Even though these procedures are limited and called for only

rarely, it is your duty and obligation to be versed in them, their diagnoses, indications and performance. Surgical obstetrics entails skill as an obstetrician and as a surgeon. In all procedures there are several factors claiming your attention; and there are many requisites. Every surgeon and every obstetrician should have indelibly implanted in his mind a blueprint of the normal female pelvis, its anatomy, its function, and its relationship to other parts of the anatomy. He should have a clear cut conception of the normal fetus, its size, position, etc., and what it should do in the way of traversing the birth canal under normal conditions. In other words, he should know his normal expectancies and with these in mind, surgery in obstetrics becomes just another aid, with this addition; every pelvis should be returned to as near normal as is possible, following delivery, and in this way we will have healthy, happy mothers and fewer insinuations as to surgical obstetric skill.

In conclusion may I remind you that there are definite indications for surgery in obstetrics which you should know and obey. Also there are many surgical procedures which will be of definite benefit to your patient, her baby, and yourself; these too often are forgotten and not employed. Let us take a step forward, and while not abandoning our watchful waiting, hopeful expectancy, and conservative attitude, may we begin to call to our assistance some of the lesser surgical aids under proper conditions and indications, and in so doing, make the entrance of many babies into this world faster and safer for the baby; easier, both at time of delivery and afterward, for the mother, without any added risk to either: a decided help to both, a lessened risk to both.

CONCLUSIONS

1. Obstetrical surgery implies hospitalization.
2. Minor operations are indicated in 65 to 75 per cent of normal primiparas at the time of delivery or afterward.
3. Absolute indications for cesarean section should be adhered to and practiced.

SUBCUTANEOUS RUPTURE OF THE JEJUNUM

H. F. DOLAN, M.D., F.A.C.S., Anamosa

CASE REPORT

The patient was an inmate at the Iowa State Reformatory, a white boy, nineteen years of age. On March 30, 1937, at 3:30 p. m., while working on a construction gang he slipped and fell about six feet, striking his abdomen on a rock ledge. The force of the fall doubled him over the sharp ledge and knocked the wind out of him. With

assistance he walked to the Reformatory Hospital which was about two blocks away. He was pale and held both hands across his upper abdomen. He was put to bed, and given morphine, gr. $\frac{1}{4}$; an ice cap was applied to the abdomen. His temperature was 98.6 degrees, pulse 60, and respiration 17. Food and fluids by mouth were withheld. I was notified of his accident and condition, but did not see him until the following day. On March 31, the following morning at 11:00 a. m., I examined the boy. His temperature was 100 degrees, pulse 80, and respiration 16. There was no vomiting; the abdomen was flat but extremely rigid and very tender in the upper left quadrant. The white blood count was 14,000; the urine negative. He was suffering severe pain, and the history of the accident and the intense pain and rigidity twenty hours after the injury certainly warranted exploration. At 11:30 a. m., twenty hours after the accident, we explored under general anesthesia. A high left rectus incision revealed several edematous congested coils of small intestine matted together. Manipulation revealed the cleavage with liberation of a purulent exudate and the ruptured segment of jejunum, eight inches below Treitz's ligament. This rent extended through half the circumference of the bowel, but fortunately had not torn any of the mesenteric vessels. A rapid repair with two layers of sutures transverse to the longitudinal axis of the gut was accomplished and the abdomen closed with a cigarette drain. No blood or free fluid was present in the peritoneal cavity due to the fact that the ruptured mucous membrane pouted and adhered to an adjacent coil of gut. Following the operation, the patient vomited profusely, but siphonage through a nasal catheter continuous for twenty-four hours corrected this troublesome reaction. He was given 2,000 cubic centimeters of saline solution with five per cent glucose daily for three days until he was able to tolerate fluids by mouth, and morphine, gr. $\frac{1}{4}$, as needed, for pain. His recovery was rapid; he was discharged from the hospital as cured on the day of his parole, April 16, 1937, and left immediately for his home in Davenport, Iowa.

DISCUSSION

There are two types of lesions produced by physical violence on the abdominal cavity and its organs. First, penetrating wounds such as stab, and bullet wounds; and second, lesions due to the action of a non-penetrating blunt force which traumatizes the abdominal viscera, but which may or may not leave marks on the surface of the skin. They are called subcutaneous injuries. Intestinal rupture without penetration of the abdominal wall is not an accident of common occurrence. The

majority of the ruptures occur in the small intestine, the first few feet of the jejunum and the last few feet of the ileum. The frequency of the lesion in the jejunum is probably due to its more or less constant relationship to the vertebral column against which it is crushed by the force applied to the abdominal wall. More important than the nature of the blow is its velocity; that is, the length of time during which the force is applied. If the rate of compression is rapid, the abdominal muscles have no time to throw themselves on guard and protect the contents; moreover, the intestines are not given time to slip out of the way. However, if the abdominal wall is slowly compressed the intestines can never be ruptured, regardless of the force applied. The mechanism is simple. If the abdomen is struck above the umbilicus the force may be transmitted to the first few feet of the jejunum. The mobility of this coil allows it to be pushed until it is checked ultimately by the vertebral column, and between the latter and the moving body the intestine is crushed or burst. Bursting and crushing produce the same pathology, a rent in the wall of the gut. However, they presuppose a different condition of the bowel. Rupture by bursting requires both arms of a loop to be caught and compressed; otherwise the gas will not be pent up. A severe blow over a large hernia sac may produce a rupture by bursting. It would appear that most of the subcutaneous lesions of the jejunum are due to a crushing of the wall against the bony vertebrae.

The first and most pronounced symptoms are shock and pain. The patient is knocked out; the reactions is analogous to a solar plexus blow. There is immediate rigidity and tenderness. With these symptoms, I do not believe any surgeon is warranted in doing an immediate exploration. The patient should be treated as a shock patient and closely observed; hemorrhage, however, would preclude any delay. If we are cognizant of the intensity of the blow, knowing it to be a severe one and when the manifestations are shock, persistent pain and rigidity, we can be reasonably sure of a surgical problem. Rigidity may be misleading evidence, for we expect a contused muscle to be rigid and tender. Vomiting may or may not occur. Shifting dullness indicates hemorrhage. Distention is a late symptom in jejunal rupture. Perforation of a large air-containing viscus like the stomach often permits the escape of a large amount of gas into the peritoneal cavity; perforation of the intestine only rarely does so. The amount of gas that escapes from the intestine within the first few hours is trivial and not enough to show physical signs of its pressure.

The importance of making an early diagnosis and operating early is readily seen from figures presented by Seigel, who studied 376 cases in which operation was performed.

TIME OF OPERATION IN RELATION TO TIME OF INJURY	
Time	Mortality
Within first four hours.....	15.2
From five to eight hours.....	44.4
From nine to twelve hours.....	63.6
After twelve hours.....	70.0

Massie reports thirty-one patients, of whom seven recovered and twenty-four died, making a mortality rate of 78 per cent.

CONCLUSIONS

Rupture of the jejunum is not a common surgical condition. This case here reported occurred in one of our state penal institutions, and if the patient had died as a result of this accident there would have been an obligation incumbent upon the legislature to appropriate a considerable sum as compensation. His recovery after the long interval between the accident causing such a large laceration and the operation, is due partly to youth and natural vigor, to the high position of the laceration, to the short duration of the operation, the adaption of simple sutures instead of resection of the bowel, and lastly to the devoted care of my surgical assistant and nurses who are inmates.

Case Report

ENDEMIC TYPHUS FEVER IN IOWA

HAROLD FREED, M.D.

Veterans Administration, Des Moines, Iowa, and

CARL F. JORDAN, M.D.

Director, Division of Preventable Diseases and
Epidemiologist, State Department of Health,
Des Moines, Iowa

and

DEAN ECKHOFF, Entomologist,
Iowa State College, Ames, Iowa

The patient, a white male forty years of age, married, cabinet maker, was admitted to the Veterans Administration Facility, Des Moines, Iowa, on November 21, 1936. Family and military history had no bearing on his condition at the time of admission. His personal history was entirely negative with the exception that he had had measles, smallpox and mumps in childhood. The history of illness for which patient was admitted dated from November 16, 1936, when he began to feel poorly. He worked that day and

also on November 17 and 18. On the night of November 18 he had a slight chill, headache, generalized malaise and fever. The extent of the fever was unknown. It continued through November 19 and 20, during which time he had several chills and complained of a slightly sore throat. On admission, the patient appeared very ill. His temperature was 102 degrees; pulse, 100; and respiration, 22. A complete general physical examination with special reference to the eyes, ears, nose and throat, chest and abdomen, revealed nothing abnormal except that the patient had an irregular, pink, macular eruption over the chest, hands, abdomen and back. This may have been present for several days prior to his admission but was not noticed by the patient or his relatives. It persisted for two or three days and then faded, leaving a few dark macules, mostly on the flanks of the body. These also disappeared within a few days. The patient was very ill during the first ten or twelve days of his hospitalization. His temperature ran a typhoid course from 100 to 104 degrees with a pulse of 90 to 130 and respiration of 20 to 30 per minute. He was irrational part of the time, complained of severe abdominal pains, vomited several times and had very profuse perspiration during both day and night. On December 2, 1936, he was put on quinine, 45 grains daily. The temperature dropped to normal the same day but recurred two days later and persisted for three more days, ranging from 102 to 99.6 degrees and was normal from then until the patient's discharge in good physical condition on December 22, 1936. The laboratory findings in the case were as follows: urinalysis, large amounts of albumin on admission, which cleared up entirely within ten days; blood Wassermann reaction, negative; blood culture as well as culture of the feces and urine for typhoid, negative; agglutination tests for the typhoid group and undulant fever, negative; leukocyte count on admission, 12,400, with a 90 per cent polymorphonuclear count; twelve days later white cell count, 11,450 with a differential count of 37 per cent polymorphonuclears, 60 per cent lymphocytes and 13 per cent monocytes. Since all physical and laboratory findings were negative, the nature of the patient's skin eruption and the character of the temperature curve suggested the possibility of typhus fever. Rocky Mountain spotted fever also required serious consideration but this condition seemed unlikely because of the absence of the common dog tick (*Dermacentor variabilis*) during the early winter season. A Weil-Felix agglutination test was performed on the patient's serum November 24, 1936. The report showed a negative reaction. Despite

this fact another Weil-Felix test was requested on November 27, 1936, and this test proved positive in a dilution of 1:80. On December 2, 1936, the agglutination reaction was positive in a dilution of 1:2560 and on December 11, 1936, positive in a dilution of 1:1280. The "protection tests" carried out on the patient's serum at the Rocky Mountain Laboratory of the United States Public Health Service, Hamilton, Montana, under the direction of R. R. Parker, Ph.D., made it appear highly probable that we were dealing with a case of endemic typhus fever.

According to the records of the Iowa State Department of Health, this is the first case of typhus fever of apparently endemic type to be reported in the state of Iowa in a resident of the state, and with illness apparently acquired within the borders of the state. The clinical and epidemiologic aspects of this case have been reviewed by R. E. Dyer, M.D., Chief of the Division of Infectious Diseases, National Institute of Health, Washington, D. C. In a letter from Dr. Dyer to the Iowa State Department of Health under date of June 16, 1937, he expressed the opinion that this was a case of typhus fever rather than Rocky Mountain spotted fever. Dr. Dyer states in part as follows: "From the history and description of the case, as given by Dr. Freed, and from the Weil-Felix reports, I would have little hesitancy in saying that this is a case of typhus fever."

In an effort to determine the source of infection it was ascertained that the patient, a resident of Des Moines, Iowa, had not been away from the city during the month preceding onset of illness. He worked as a cabinet maker for a Des Moines manufacturing company. The building concerned, at least sixty years old and far from rat-proof, is adjacent to railroad tracks in the business section of the city. Lumber from Louisiana and other southern states is received from time to time. Whether or not this might be a factor in the importation of infection is uncertain. The patient gave no history of direct exposure to insects or arachnids. While his residence was free from rats and mice, rats were frequently observed at the place of employment. During a period of several months following the patient's recovery, a study was made of rats trapped in or near the building in which he worked and in other buildings and localities in Des Moines. Blood specimens, obtained from 103 rats, were forwarded to the State Hygienic Laboratories at Iowa City. The Weil-Felix test with *B. proteus* X19, performed on all serum specimens of rates, proved negative.* The only significant epidemiologic finding, relative

to the probable manner of virus transmission, was that of twenty-five specimens of the tropical rat flea (*Xenopsylla cheopis*), and six specimens of the rat mite (*Liponyssus bacoti*) which were removed from rats trapped on the premises where the patient was employed.† Neither tropical rat fleas nor mites were found on any of the rats which were trapped elsewhere in Des Moines.

† For identification of the various species of ecto-parasites removed from rats in the investigation, the authors are indebted to Dr. Robert Rodabuch, Instructor, Department of Zoology, Iowa State College, Ames, Iowa.

THE FINLEY HOSPITAL CLINICO-PATHOLOGIC CONFERENCES

ADAMANTINOMA OF THE JAW

DONALD C. CONZETT, M.D., Dubuque

Adamantinoma of the jaw is a tumor seen early more frequently by the dentist than the surgeon. Such a case is presented, not because of the efficacy of treatment, but because it was followed to its termination with autopsy.

CASE REPORT

Mr. W. B., a retired farmer, was first seen October 2, 1936. He gave the history that eight weeks previously his dentist had extracted the right lower first molar because the tooth seemed to be pushing up into his mouth. This had been followed for several days by free bleeding and shortly thereafter he noted some swelling in the jaw. The swelling increased and in about a week the dentist incised an external fluctuating area just below the jaw. The resultant drainage was very slight and the swelling increased. At this time he consulted his local physician, who referred him promptly for diagnosis and treatment.

Preliminary examination revealed a middle-aged man acutely ill, with an enlargement of the right mandible at its mid-portion, smooth, firm, of rock-like hardness and about the size of a hen's egg. A draining sinus just below its mid-portion discharged seropurulent material. The mouth could be opened only sufficiently to admit one finger. The area about the site of extraction seemed to be elevated and redder than the adjacent mucosa of the buccal cavity. His temperature was 101 degrees and the pulse 110. The patient was immediately hospitalized and x-ray examination made. Dr. L. G. Ericksen, roentgenologist of Finley Hospital, reported: "X-ray examination of the right mandible shows a large destructive area occupying above five centimeters in length and the entire width of the mandible. The borders of the lesion are lobular and smooth and the process has ex-

* The authors gratefully acknowledge the collaboration of I. H. Borts, M.D., Assistant Director, State Hygienic Laboratories, in the performance of the Weil-Felix agglutination tests.

panded the mandible to some extent. There is a ragged and eroded section in the mid-portion which has apparently eroded the lateral wall and I believe is due to secondary infection and osteomyelitis. The appearance is quite typical of an adamantinoma with secondary infection." (Fig. 1.) Cultures of the exudate revealed *Staphylococcus aureus*. Massive hot dressings were applied, fluids forced, and in seventy-two hours a fluctuating mass localized over the mandible just anterior to the angle. Under ethylene anesthesia this area was incised and with an exploring forceps a thin wall of bone was broken, and a cystic cavity entered. By curettage a large amount of pinkish white friable material was removed. Dr. F. P. McNamara, pathologist, reported: "Gross examination: the specimen consists of several pieces of pink tissue which are friable; microscopic examination: the sections show the tissue to be composed of solid masses and elongated strands of epithelial cells. The connective tissue stroma is rather scant. In a few areas there is a slight tendency for the formation of cavities resembling cysts. Occasion-



Fig. 1. Roentgenogram of the right mandible.

ally the cells are in a regular formation resembling a basement membrane. Mitotic figures are occasionally seen. I believe the tumor is a variation of the adamantinomas. Histologically it is malignant. Anatomic diagnosis: adamantinoma (malignant degeneration).

Two days later under intravenous evipal the tumor was attacked intra-orally and with electrocoagulation all visible remnants were removed and the cavity packed with iodoform gauze. Five days later the packing was removed and heavy x-ray treatments were started. When seen three months later the tumor had subsided so that the mandible appeared nearly normal in contour and the cervical

glandular enlargement had receded. In February and again in April, 1937, there were secondary abscesses about the original tumor site, each of which was accompanied by considerable pain before drainage. About May 15 the entire area over the mandible broke down and large sloughing masses of odorous tissue were discharged. The patient was having difficulty in opening his mouth, could take only liquids and was obviously weak. He had lost twenty-five pounds since his original examination. There were several hemorrhages from the mouth and the breath was very foul. He was again hospitalized and the necrotic areas irrigated. The patient failed rapidly and expired July 2, 1937.

AUTOPSY FINDINGS

Body: The body is that of an emaciated white man estimated to weigh 130 pounds and to measure 74 inches in length. Externally the body is remarkable because of fullness of the right side of the face and because of a large necrotic area along the right lower jaw. The subcutaneous fat is very scant and the abdominal and thoracic muscles are thin and ribbon-like. On opening the abdomen the liver is low but otherwise the viscera are normally disposed. The liver's edge is ten centimeters below the costal border. The diaphragm extends to the lower border of the sixth rib on each side. The ribs cut with decreased resistance. There is no excess fluid in the chest and the cavity appears more dry than usual. This is likewise true of the abdominal and thoracic muscles.

Heart: The heart weighs 360 grams. The right side is dilated. On opening it contains only dark red and "chicken-fat" clots. On routine dissection only slight changes due to arteriosclerosis are noted.

Lungs: The lungs are voluminous and heavier than normal. There is an abscess near the diaphragmatic surface of the right lung and the pleura is covered by a fibrinous exudate in this area. On section each lung is irregularly congested and edematous, especially in the dependent portions. The lower lobes appear irregularly consolidated and the bronchi exude purulent exudate. The hilic nodes are pigmented, soft and succulent. They do not show metastases.

Liver: The liver is large and is estimated to weigh 1750 grams. A small collection of dilated blood vessels is seen at the margin near the gallbladder. Otherwise the liver is unremarkable externally and on section. The gallbladder is moderately thickened and contains three large faceted stones. The bile ducts are patent.

Spleen: The spleen is small and firm. Externally it shows a thickened, semi-opaque area over

the outer surface of the capsule. On section the cut surface is pale and there seems to be a slight increase of connective tissue through the pulp. The malpighian corpuscles are few in number and appear very small.

Pancreas: The pancreas weighs 100 grams. On section the lobules are homogeneous.

Adrenals: Together the adrenals weigh ten grams. On section the cortex and medulla form regular layers of normal thickness.

Kidneys: Together the kidneys, which are equal in size, weigh 325 grams. The capsule of each strips easily leaving a pale, smooth surface. On section the cut surface appears normal in each instance. The pelves, ureters, urinary bladder and genitalia are not remarkable.

Blood Vessels: The main arterial and venous trunks contain dark red and "chicken-fat" clots. The abdominal aorta shows a few deposits of fatty material beneath the intima but is elastic.

Stomach and Intestines: The stomach and intestines are not remarkable.

Lymph Nodes: None of the lymph nodes of the neck, axillae or inguinal regions show metastases.

Microscopic Notes: Sections of the growth beneath the sinus of the jaw show masses of neoplastic cells like those in the surgical specimen. The hilic and cervical lymph nodes show no metastases. The lungs show numerous leukocytes in the bronchi and patches of alveoli filled with a similar exudate. Sections of the liver show a hemangioma. Sections of the kidney show hyalinization of a few of the glomeruli and slight thickening of the arteries.

Anatomic Diagnosis:

Primary:

1. Adamantinoma of right mandible: extension to the floor of the mouth.
2. Operation (excision of neoplasm; x-ray therapy; sinus formation).
3. Emaciation; bronchopneumonia with abscesses and fibrinopurulent pleurisy.

Subsidiary: Early arteriosclerosis, hemangioma of the liver; perisplenitis.

DISCUSSION

This type of tumor was first described by Broca in 1869, but Malassez in 1885 gave a theory of origin which is today accepted by most later investigators. He explained that adamantine epithelioma arises from atrophied or isolated groups of cells about the roots of teeth which, because of certain conditions, proliferate and give rise to a

tumor similar to the structures from which the debris was derived. The literature varies greatly regarding the exciting factor, for irritation, inflammatory conditions and traumatism all have proponents. There is undoubtedly much overlapping in these conditions as the case report demonstrates.

McFarland and Patterson have made the most comprehensive survey of the subject reporting all the cases in the medical and dental literature, 196 in number. Of this number 166 were reported in the jaw, occurring in women and men in the proportion of three to two; the average age being forty years, and the duration of symptoms seven years. Mandibular tumors were five times as common as those in the maxilla and there were about six cystic tumors to one solid tumor. Only complete radical incision seemed able to effect a cure. They found twenty-six cases of adamantinoma of the pituitary, 90 per cent of which were supracellular in position.

Kegel reported thirty-five cases of adamantine epithelioma from Bloodgood's service at Johns Hopkins Hospital. He states that this tumor is par excellence a recurrent tumor for in nineteen of the thirty-five cases reported recurrences are known to have occurred. In six of the cases x-ray or radium had been tried and in none had a beneficial result been noted. The adamantinoma is radio-resistant.

COMMENT

This case is of interest from several standpoints. If the tumor had been recognized earlier, curative treatment might have resulted. One can only speculate on how long this growth had been present, but it had obviously existed for some time before the extraction. The superimposed infection was a deterrent to a successful termination, and as the literature proves, drainage and curettage were insufficient to produce permanent results. Radiation has no effect on the growth of the tumor and in this case produced a breaking down of the superficial tissues. Death was due to aspiration of debris with resultant abscesses rather than from the tumor itself. Although the literature states that these cases rarely metastasize no cases with autopsy were included in the articles reviewed.

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STATE DEPARTMENT OF HEALTH

Valer L. Looming

TYPHUS FEVER IN IOWA

The scientific section of this number of the JOURNAL, pages 425 and 426, contains an article by Freed, Jordan and Eckhoff, reporting a case of typhus fever of endemic type, the first case of this kind to be reported to the Iowa State Department of Health.

Typhus fever is caused by one of the Rickettsiae, known as Rickettsia prowaceki. Endemic and epidemic types of the disease exist. Endemic typhus fever was shown by Maxcy, and by Dyer, Rumreich, and Badger, to be spread from person to person by the rat flea or rat mite. The wild rat serves as a rodent reservoir of the virus. This form of typhus fever occurs in some of the southern states, notably Georgia, Alabama and Texas, most cases being reported in August. Typhus fever of epidemic type is transmitted from the infected person to others through the agency of the body louse, Pediculus humanus. Interesting in this connection is the outbreak of eight cases, four Mexicans and four white persons, which was investigated and reported in the JOURNAL by Mark F. Boyd, M.S., M.D., C.P.H., formerly state epidemiologist of Iowa.¹ Dr. Boyd's article contains

a detailed account of the life history and habits of the body louse in relation to the transmission of epidemic typhus fever. The article presents concise data relative to the eight cases investigated, describes the probable manner of spread of infection among attendants and patients in the Santa Fe Hospital, and outlines thoroughly the effective control measures which were instituted. The source of the outbreak of the epidemic type of typhus fever reported by Dr. Boyd was found to be a Mexican who left Mexico, spent two month in El Paso, Texas, became sick some days later in New Boston, Illinois, and was admitted for treatment in the hospital at Fort Madison, Iowa, October 30, 1916.

Differential Diagnosis

Endemic typhus fever is similar in many respects to Rocky Mountain spotted fever. Case reports by Stroy² and Floyd,³ of cases of the latter disease, were published in the July number of the JOURNAL. The following table, based on Iowa cases and on an article by Dyer, Rumreich and Badger⁴ emphasizes some of the means of differentiation between the two diseases:

POINTS OF DIFFERENTIATION
Rocky Mountain Spotted Fever

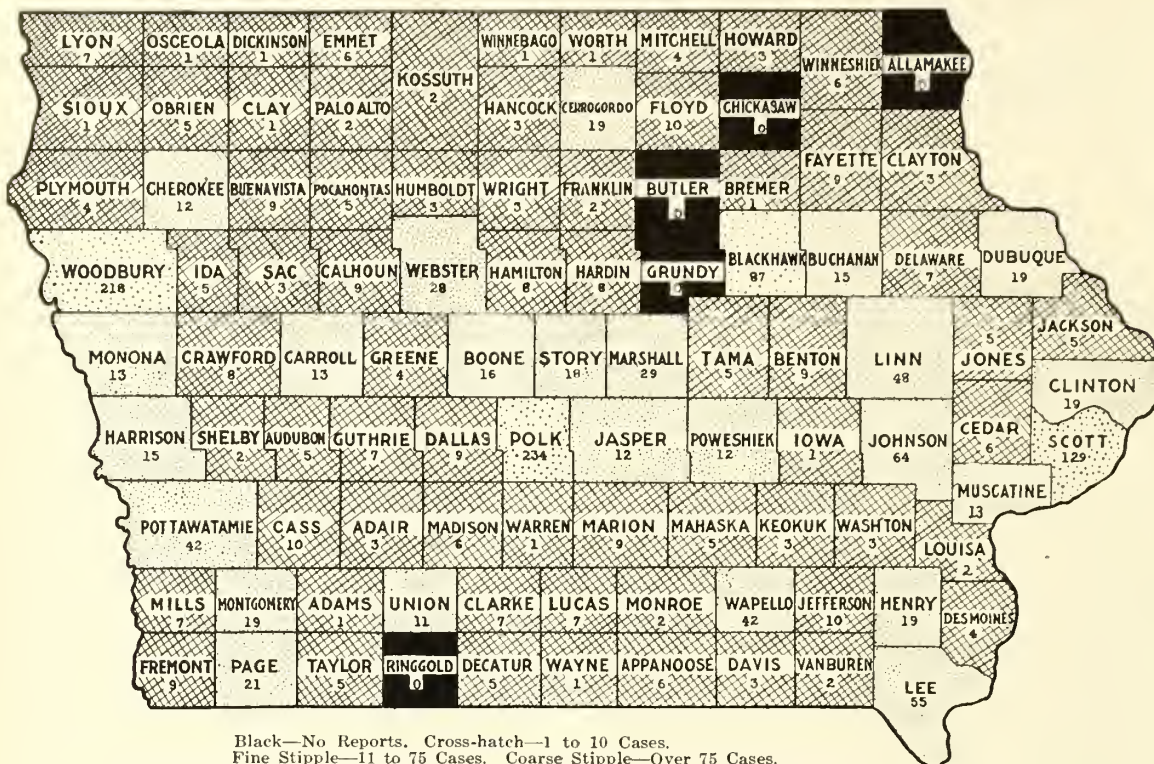
Endemic Typhus Fever

Clinical	Three to seven days	Seven to fourteen days
1. Incubation Period	Fever, chill, headache, anorexia, general aching, prostration, lethargy, coma.	Chill, headache, malaise, fever
2. Symptoms	Third to seventh day, begins on wrists and ankles, later generalized; faint macules, more pronounced in afternoon, two to six millimeters in diameter, second week petechial, purpuric	Fifth day; chest and abdomen, face free; generalized in severe case; macular, dull red
3. Rash	Fever usually lasts 16 to 22 days Usually 20 to 25 per cent	Fever less than 16 days About one per cent
4. Duration		
5. Mortality		
Epidemiologic		
1. Seasonal Occurrence	June to September	Throughout year, mostly July to October
2. Causative agent	Rickettsia dermatroxenus	Rickettsia prowaceki
3. Transmitting vector	Common dog tick, Dermacentor variabilis	Rat flea, Xenopsylla cheopis Rat mite Rat Urban Bite of flea or mite
4. Vector host	Dog	
5. Distribution	Rural	
6. Manner of Transmission	Tick bite or crushing of tick	
Laboratory		
1. Weil-Felix Agglutination test	Positive (Repeat tests)	Positive (Repeat tests)
2. White blood count	Leukocytosis	Leukopenia
3. Urine	Albumin + +	Albumin +
4. Protection test after convalescence	Guinea pig receiving patient's serum survives spotted fever virus inoculation	Guinea pig receiving patient's serum survives typhus virus inoculation

Endemic typhus fever is another infectious disease, the occurrence of which needs to be kept in mind in a patient presenting illness as above outlined. If a first agglutination test (Weil-Felix reaction) on a suspected case is negative, it is possible that a second or third specimen of the patient's serum may be a deciding factor in the recognition of further cases of typhus fever in Iowa.

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Black—No Reports. Cross-hatch—1 to 10 Cases.
Fine Stipple—11 to 75 Cases. Coarse Stipple—Over 75 Cases.

STATUS OF REPORTING OF SYPHILIS BY COUNTY, JANUARY TO JULY, 1937

REPORTING OF SYPHILIS BY COUNTIES IN IOWA

For the Period January to July 1, 1937

Study has been made of all cases of syphilis reported to the Iowa State Department of Health for the first six months of 1937. During this period, 1,547 cases were reported, an increase of two and a half times over the 615 cases notified for the same period in 1936. This marked improvement in the reporting of syphilis in Iowa was brought to the attention of readers of the JOURNAL in the May number, page 214, and the June number, page 263. While recent months have shown gratifying improvement in notification of syphilis in Iowa, the reporting of these cases is still incomplete as compared with the rate of reporting in some of the other states. (See bar graph in the June number of the JOURNAL, page 263.)

The accompanying map represents in graphic form the participation of physicians in Iowa's ninety-nine counties, in the reporting of the 1,547 cases of syphilis recorded for the first half of this year. It will be noted that four counties, namely Black Hawk, Polk, Scott and Woodbury, reported more than seventy-five cases for the period concerned. In contrast five counties, Allamakee, Butler, Chickasaw, Grundy and Ringgold, reported no cases of syphilis for the six-month period. (One county has not reported a case of syphilis since 1934.) Sixty-six counties (indicated on the map by cross-hatch), reported

from one to ten cases of syphilis between January 1 and July 1; twenty-four counties (indicated by fine stippling), reported eleven to seventy-five cases for the same period. Of the counties having a venereal disease clinic for the treatment of indigent patients, Linn county has made the most marked improvement in notification with twelve times as many cases reported to July 1, 1937, as compared with the same period in 1936.

With renewed interest in syphilis as manifested by the profession and the public, with the emphasis that is being placed on the need for thorough treatment, and with actual realization of more adequate laboratory facilities for early diagnosis in Iowa, continued improvement in the reporting of syphilis is confidently expected during the coming months.

LABORATORY SERVICES AVAILABLE

Under provisions of a special appropriation made by the Forty-seventh General Assembly, the following laboratory procedures are now available, without cost, to all licensed physicians in the state of Iowa, at the State Hygienic Laboratory in Iowa City:

1. Wassermann and Kahn tests (and at the option of the Laboratory, the Kline exclusion test) on specimens of blood serum and spinal fluid for evidence of syphilis,

- 2. Dark field examination of chancre fluid for spirochaeta pallida,
- 3. Examination of smears for gonorrhea,
- 4. Sputum examination for B. tuberculosis (limited to smears),
- 5. Throat cultures for organisms such as B. diphtheriae, Streptococcus hemolyticus and bacteria associated with Vincent's infection.
- 6. Agglutination tests for diseases like typhoid and para-typhoid fever, undulant fever, tularemia and the Rocky Mountain spotted fever-typhus group,
- 7. Blood cultures for typhoid and undulant fever,
- 8. Fecal (and urine) examinations, limited to specimens for diagnosis or release, and to those pertaining to special epidemiologic investigations,
- 9. Examination of milk, necessarily limited to specimens in connection with outbreaks or special investigations,
- 10. Examination of the brain of animals for evidence of rabies.

For laboratory services other than those listed above, including the gold chloride test of spinal fluid, the complement fixation test for gonorrhea, guinea pig inoculation for tuberculosis, the preparation of vaccines, and other services of a non-routine character, it is advised that these examinations and services be referred to one of the approved clinical laboratories of the state. If such facilities are not accessible to the physician making the request, the State Hygienic Laboratory will render the service for which a fee will be charged commensurate with the expense involved and in accordance with the fees of the clinical laboratories. Any income from such fees will be deposited in a reserve fund for purposes of research. Correspondence regarding laboratory services should be directed to the State Hygienic Laboratory, Medical Laboratories Building, State University of Iowa, Iowa City.

SCHEDULE FOR WATER ANALYSES

Under the provisions of an appropriation made by the Forty-seventh General Assembly, certain examinations of water can now be made free of charge. The appropriation is not sufficient so that all water examinations can be made free, hence such free examinations are being limited to samples from public or semi-public supplies, or to those where a public health problem is involved. Samples of water from the following sources will be analyzed by the State Hygienic Laboratory at Iowa City. Examinations will consist of the standard bacteriologic and sanitary chemical analyses, but will not include complete mineral analyses of the water. Upon special request, and at the discretion of the State Department of Health, the examination may include iron and manganese determinations, which of themselves are of no sanitary significance.

- 1. All municipal water supplies (publicly or privately owned).
- 2. All public or semi-public water supplies owned by or under the supervision of the federal, state or county government.
- 3. All semi-public boys' and girls' camps, such as those sponsored by the Boy Scouts, Girl Scouts, Y.M.C.A. and Y.W.C.A., etc.
- 4. All samples from whatever source submitted by medical officers, nurses and sanitary engineers of state, district and whole-time county health agencies.
- 5. All samples submitted by local health officers in the conduct of their official duties.
- 6. All public school water supplies.

All other samples of water will be analyzed by the laboratory for a fee on one dollar per sample for sanitary chemical and bacteriologic analyses. Inquiries in connection with this service should be addressed to the State Hygienic Laboratory at Iowa City.

DOCTOR SHARON ASSUMES DUTIES

James P. Sharon, M.D., having recently completed a period of six months' special training in venereal disease work at the Johns Hopkins Hospital, Baltimore, Maryland, joined the staff of the Division of Preventable Diseases of the Iowa State Department of Health, July 1, 1937. Doctor Sharon has assumed duties as associate director in charge of venereal disease control.

DOCTOR MCCARTHY DIRECTS TUBERCULOSIS WORK

On July 1, 1937, C. K. McCarthy, M.D., began his duties with the State Department of Health, as director of activities for the control and prevention of tuberculosis. Prior to his arrival in Iowa, Dr. McCarthy was for a number of years superintendent of the State Tuberculosis Sanatorium at Rutland, Massachusetts. Dr. McCarthy will direct the tuberculosis work, to be carried on through cooperative efforts on the part of the Iowa State Medical Society, the Iowa Tuberculosis Association and the Iowa State Department of Health.

PREVALENCE OF DISEASE				Most Cases Reported From
	June '37	May '37	June '36	
Diphtheria	9	16	11	Des Moines, Woodbury
Scarlet Fever	358	695	393	Polk, Woodbury, Black Hawk
Typhoid Fever	13	2	5	Emmett, Scott
Smallpox	108	128	60	Polk, Webster
Measles	43	21	18	(For State)
Whooping Cough...	124	153	60	(For State)
Cerebrospinal Meningitis	1	0	6	
Chickenpox	135	173	90	Tama
Mumps	36	74	151	(For State)
Influenza	3	11	0	(For State)
Poliomyelitis	0	0	0	(For State)
Rocky Mountain Spotted Fever....	10	0	0	(For State)
Tuberculosis (Pulmonary)	77	40	47	Decatur, Woodbury, Des Moines
Undulant Fever....	14	17	13	Woodbury
Gonorrhea	220	190	141	Grundy, Polk
Syphilis	306	329	73	(For State)

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POLICY DETERMINATION

Out of the many problems of a medical, economic and social nature which confront the world today, one has recently emerged which has thrown an entirely new light on a subject familiar enough to be considered trite. It has become a truism, particularly for the medical profession, that "the poor we have always with us." For the most part the members of the medical profession have acted in accordance with the assumption that the medical care of this group of individuals was their own special burden. As the economic conditions of the day were reflected in the size of that group, the burden was correspondingly light or heavy. However, during the last severe depression, the individual physician was physically and financially unable to accept the sole responsibility for the medical care of all those on relief. Medical relief at last became a part of the general relief problem, to be handled by the community. Suddenly the gigantic proportions of this problem became appreciated, and the severity of the matter has become a byword with the American public. Numerous solutions were urged, including compulsory health insurance and socialized medicine.

For the time being, however, such problems as compulsory health insurance and socialized medicine have been pushed in the background by the importance of the new phase of the medical relief program which seems to demand immediate consideration. The primary issue seems to be whether medical service for the indigent shall be a function of the federal government or be a local problem. Already there is considerable evidence of federal activity in this direction. Federal relief administrator, Harry Hopkins, has been quoted on many occasions as stating that relief measures in the future were destined to assume increasingly larger

and more adequate proportions. If this remark is true, and there seems to be little reason to doubt it, then it may be assumed that widespread indigency is a problem which will be constantly with us, and is not as many of us thought a few months or years ago, merely an emergency situation. According to the June 21, 1937, issue of *Time*, Miss Esther Lape, editor of *American Medicine*, together with some ten physicians, among whom was Dr. Samuel J. Kopetzky of New York, met with President Roosevelt and other officials for the purpose of discussing a possible national health program which would have a Secretary of Health in the President's cabinet. Further, according to *Time*, the President requested his guests to submit a plan which medical organizations, especially the American Medical Association, would approve. Dr. Kopetzky volunteered to develop such a plan. Later before the House of Delegates of the American Medical Association at Atlantic City, Dr. Kopetzky presented a resolution endorsed by the New York State Medical Society, proposing such a federal health policy. This resolution stipulated that public funds should be made available to provide medical care of the medically indigent, for medical research and education, and for hospitals that render service to the medically indigent. The Honorable J. Hamilton Lewis, senator from Illinois, then appeared before the House of Delegates in an official capacity, with the message that legislation was in the making at Washington in which physicians would be enrolled in federal service for the rendering of medical care to citizens of this country regardless of their financial circumstances. He beseeched the medical profession to give the matter serious thought, and to advise the federal government as to how this might best be accomplished.

In view of the fact that politicians and governmental officials have given this matter considerable attention, the Executive Council of the Iowa State Medical Society on June 29, 1937, adopted a resolution to the effect that it was vigorously opposed to the enactment of any such legislation as that referred to in the address of Senator Lewis. In this attitude we heartily concur. In effect, it means that the Iowa State Medical Society has gone on record as saying that it is capable of taking care of its own medical problems. To this extent its action, even though a negative one, is commendable, but the time has now come for more positive action if we say to the federal government, "We want none of your interference." Obviously this attitude imposes upon us an obligation to provide adequate medical service to indigents and to any other groups who by reason of low income are unable to secure adequate medical service. If the

rendering of medical service to indigents and other related groups is to be considered entirely as a local problem, then certainly a considerable amount of policy determination is necessary in order that positive action may be begun at the earliest possible moment. It is unfortunate that medical organizations compare so unfavorably with private businesses in the matter of policy determination. No private enterprise could succeed for any length of time without frequent conferences for the purpose of fixing policies, and when policies have once been determined, they become the rule by which the business is carried on from top to bottom until such time as new policies need to be established. Medical organizations on the other hand are so constituted that such policy determination is very difficult, and even more difficult to make effective, because of the basic individualism which characterizes the medical profession. In the solution of our present economic problems, however, it seems imperative that certain policies be established, and once having been approved, that they be pursued with the full force and vigor of the medical profession behind them until the objectives have been secured.

On a broad scale, the policies which should obtain in the practice of medicine have been set forth in the ten points adopted by the House of Delegates of the American Medical Association at its special session in Chicago, February, 1935. These points are well worth repeating here since they cannot come to the attention of any of us too often. They are as follows:

1. All features of medical service in any method of medical practice should be under the control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

2. No third party must be permitted to come between the patient and his physician in any medical relation. All responsibility for the character of medical service must be borne by the profession.

3. Patients must have absolute freedom to choose a legally qualified doctor of medicine who will serve them from among all those qualified to practice and who are willing to give service.

4. The method of giving the service must retain a permanent, confidential relation between the patient and a "family physician." This relation must be the fundamental and dominating feature of any system.

5. All medical phases of all institutions involved in the medical service should be under professional control, it being understood that hospital service and medical service should be considered separately. These institutions are but expansions of the equipment of the physician. He is the only one whom

the laws of all nations recognize as competent to use them in the delivery of service. The medical profession alone can determine the adequacy and character of such institutions. Their value depends on their operation according to medical standards.

6. However the cost of medical service may be distributed, the immediate cost should be borne by the patient if able to pay at the time the service is rendered. ("Immediate" in this connection is here interpreted as meaning that at least a part of the medical service should be paid for by the patient at the time service is rendered.)

7. Medical service must have no connection with any cash benefits.

8. Any form of medical service should include within its scope all legally qualified doctors of medicine of the locality covered by its operation who wish to give service under the conditions established.

9. Systems for the relief of low income classes should be limited strictly to those below the "comfort level" standard of incomes.

10. There should be no restrictions on treatment or prescribing not formulated and enforced by the organized medical profession.

With these principles the majority of physicians are in full and hearty agreement, but more than passive acceptance is necessary at the present time. There are definite economic medical problems which must be met—problems which have been brought to the foreground as the result of the depression and the changing social order. In the opinion of the JOURNAL such problems have been set forth very succinctly in the presidential address of Dr. Charles Gordon Heyd presented before the House of Delegates at Atlantic City. We believe they form an excellent basis for policy determination by those states which like Iowa believe the solution for their medical problem lies within their own borders. The propositions which Dr. Heyd advances as the major problems of the day are as follows:

1. That every practitioner believes that the proved indigent is entitled to medical service free of all charges and that the cost of this service should be paid by taxes levied on the general population.

2. The principle that indigence is a local problem and should be handled in the area in which it arises.

3. The extension of medical services to the indigents in their homes and the doctors' offices with remuneration to the physicians on a capitation basis under the direction of the county medical society, all free services to indigents to be rendered by the physicians or outpatient department of the hospital

within the geographic or regional zone in which the indigent resides.

4. The certification of indigents, fairly, sincerely, honestly and sympathetically by the application of standards of eligibility, by central bureaus under the department of welfare, with proper representation from the county medical society. It should not be the function of the outpatient department to pass on the validity of indigents, nor should they admit for free services those that are not in truth indigents.

5. A medical census of the indigents, to learn what our load is and how to take care of it. There should be devised a positive means of identification to prevent padding of the lists.

6. A limitation of the number of patients that may attend any one clinic. Since it is claimed that there is no profit in clinic and outpatient department services, there should be no desire for a hospital to increase the number of outpatients beyond its capacity to take care of them. To save valuable time, with the economic loss, clinics could be run with a limited number and on an appointment basis.

7. The payment of a fair remuneration to all physicians working in outpatient departments or giving medical services to the indigents in their homes. This remuneration must not be so low as to bring with it an inferior medical practice and the palliative bottle of medicine. It should not be too high. A fair average can be worked out and still maintain the best qualities of scientific medicine. In the planning of the details of this service it might seem wise to set up a special subdivision of activity under the auspices of the county medical society.

8. The unequivocal opposition to all forms of compulsory health insurance. Insurance schemes tend to relieve the individual of his own responsibility and to increase the prolongation of illness. In short, under an insurance scheme it is profitable for a person to be sick.

9. It is apparent, without wishing to be invidious, that there are, medically speaking, backward areas where the paucity of population and physicians, or its low level economically, or its extreme congestion and poor living conditions render it impossible to provide a fair degree of medical services under the present personal remuneration basis. In such areas it is desirable for the local or state health agencies to set up a laboratory service in chemistry, pathology and bacteriology for the use of practitioners in that area, these laboratories to be established on a regional or geographic basis and with and by representation by local county medical unit and/or the state medical society. This service is to be a purely diagnostic laboratory service for physicians only, such as exists in our more forward looking

states with regard to Widal, Wassermann and other diagnostic procedures. No treatment in any form should be provided under this set-up.

10. The studies on rural medical service should be continued and general principles and policies elaborated for consideration by the House of Delegates. The employment by the government of medical personnel for services in unusual or geographically remote areas has been recommended.

11. What are we to do with "catastrophic illness?" By catastrophic illness I mean the emergency that is expensive and for which no ordinary family can budget. Its emergency character, its expense and the necessity for immediate help render it an important item in the conception of any medical service. It probably represents from eight to ten per cent of acute illness at any one time.

To our minds these propositions embody the major pertinent medical, social and economic problems confronting the medical profession of Iowa. The Iowa Emergency Relief Administration ought to be considered to have outlived its period of usefulness insofar as its function to furnish emergency medical service to indigents is concerned. Present trends indicate that relief will continue to be extended through federal or state agencies, and if so the public must be made to realize that it is now being established on a permanent rather than a temporary basis. However, it is the feeling of the medical profession in Iowa that medical relief in this state is and should be a local concern. The unsatisfactory experiences of many physicians with the Iowa Emergency Relief Administration in the matter of cut fees, etc., should be a spur to our delegated officials to develop a new plan for the providing of medical service to indigents, or even better, to utilize to a greater extent Iowa's own plan for the care of the indigent sick—a plan which was in successful operation in a large number of counties throughout the state before the advent of the Iowa Emergency Relief Administration. That physicians should receive adequate compensation for their services to this class of people is fair and just, but it will require time and effort to convince the general public that the members of the medical profession are serious in their demands.

It is our belief that no acute problem exists in Iowa in regard to the adequacy of medical service for rural areas. This, however, should be a matter for investigation, for certainly it is the right of every physician within our state to have available for his use, a laboratory in which all routinely used tests can be performed, in order that his patients may have the advantages of accurate scientific diagnoses.

The problem of medical service for the people

of the low income group, or as Dr. Heyd speaks of them, those who are likely to incur a "catastrophic illness," is one much more difficult of solution. Unquestionably something should be done for honest, hard working men and women with low incomes who suddenly experience serious illnesses requiring hospitalization, operating fees, and expensive laboratory procedures, as well as the additional burden of a loss of work for some weeks or months. Under these conditions some people become saddled with such a debt that months and even years are required before the stigmata of indebtedness can be lifted from their shoulders. Some arrangements will have to be made by means of which these people may be spared such distressing and often morale-breaking situations. The plea of the JOURNAL is that the proper official bodies of the Iowa State Medical Society consider these propositions and establish definite policies regarding them, so that all energies of organized medicine in this state may be brought to bear on the same focus; namely, the establishment of a comprehensive plan by which it can be demonstrated beyond question that the problem of medical service to the citizens of Iowa can be solved within its own borders, and without the assistance of the federal government.

DIPHTHERIA PROPHYLAXIS

The story of the treatment and the prophylaxis of diphtheria presents one of the most dramatic achievements of modern science, as well as constituting one of the most significant contributions to preventive medicine. When one realizes it was as recent as 1917 that von Behring first employed toxin antitoxin in the prevention of diphtheria, and that not until 1918 did Zingher and Park first introduce the use of this method of prophylaxis into the United States, one appreciates what has been accomplished in the control of this serious disease.

In 1924 Ramon introduced anatoxin, or toxoid, and this method of prophylaxis in children became almost universal. The absence of reactions in the pre-school group and the necessity for only two injections made this product suitable for individual or group immunization. However, the advantage in obtaining immunity by one injection led to the application of alum precipitated toxoid. The principle involved in the use of this product is that the slow absorption gives rise to a more or less continuous antigenic stimulus in the individual injected, quite comparable in antigenic stimulus to two doses of toxoid. Since 1933 the one dose method of immunization by alum precipitated toxoid has been generally employed. The results

as demonstrated by the Schick test at the end of sixty and ninety days were practically the same as the results obtained by the use of fluid toxoid.

Several reports during the last year have indicated that the immunity conferred by one dose of alum precipitated toxoid does not endure. Fraser and Halpern in Canada, and Pansing and Shafer in Ohio, have presented results which clearly indicate that the attempt to simplify the technic by one dose of antigen has led to a sacrifice of reasonable permanency of immunity. Pansing reports that of a group of 549 Schick positive children, who were Schick negative at the end of twenty-eight or sixty days following the administration of one dose of 1.0 cubic centimeter of alum precipitated toxoid, 57.8 per cent reverted to Schick positive after two years. At the 1937 meeting of the American Medical Association in Atlantic City, William H. Park of New York recommended that the most effective method of diphtheria immunization consists in the administration of 1.0 cubic centimeter of alum precipitated toxoid followed in two weeks by the injection of 1.0 cubic centimeter of plain toxoid.

It is advisable that those children who have been immunized by the one dose method should have the Schick test repeated at the end of two or three years and that in future immunization programs the permanency of the immunity should not be sacrificed for the ease of administration.

II. THE TREATMENT OF CARDIAC NEUROSES*

"The mind is its own place, and in itself can make a Hell of Heaven or a Heaven of Hell."

Twenty to thirty per cent of all those who seek medical succor for heart troubles have their principal cause of disability elsewhere in the body. If perchance cardiac lesions are present, they are not the cause of the patient's complaints; the signs and symptoms are due to an harrassed mind. In other words, the syndrome to be described presently is but a cardiac form of neurasthenia. The heart is selected as a portal of exit for the mind's troubles, either because it is a respectable organ on which to blame one's trials and tribulations, or because certain types of cardiac disease are well known and feared for their dramatic symptoms and tragic endings. The patients with cardiac neuroses are often genuinely crippled by their misfortunes, and frequently suffer more than patients with organic lesions. One should be familiar with this type of ill health, not only because of the amount of suffering and economic loss which it causes, but also

*This is the second in a series of special editorials on modern cardiac therapy, prepared by Dr. Daniel J. Glomset. The first article appeared in the July issue of the Journal.

because the syndrome is frequently attached to real organic disease of the heart and to lesions of other parts of the body.

When the heart holds the center of the stage, the patients complain of weariness, of palpitation, or merely of tachycardia. They complain of not being able to take a deep breath, or of peculiar gastric disturbances. They often say they cannot sleep on the left side. All manner of cardiac pains or discomfort are common. They have "sticking" pain under the breast bone, or around the heart, or where they think their heart should be, but never is this pain clearly associated with effort, and never is it fearfully severe. These patients may have numb feelings in various parts of the body, and frequent fainting spells. All of these symptoms have two pathognomonic characteristics. They are all tinged with fear, and, although they simulate symptoms produced by organic disorders, they are never identical with them. The patients give histories of coming from high-strung forebears; of having had trouble in marching with the procession even at their best. In the pure forms of cardiac neurosis, the blood pressure is usually low; the patients look weak and sweat easily; an unstable vasomotor system is evident from the patches of erythema which come and go, usually over the upper part of the thorax; the heart is normal, or at best manifests a systolic blow in the area of cardiac romance or at the apex. Such a syndrome, regardless of whether it occurs alone or in company with serious or trivial organic disorders, means neurosis, and must be treated as such. However, in order to treat it properly, it is necessary that the clinician thoroughly understand not only the true nature of the condition, but the nature of its host, and also the many varied exciting causes that bring forth the neurotic syndrome.

Nothing, it seems to me, is more inane than the contention of Freud and his followers that neuroses are due almost exclusively to sex maladjustments. People who suffer from neuroses have a delicate health balance that is easily disturbed. They are affected by small things that bother more stable individuals little or not at all. To be sure sex hunger, lovers' quarrels, maladjustments between husband and wife, can and do make this type of a person list, and list profoundly, too, from disease; but so will a fall in the stock market, the loss of a job, and hundreds of other serious or even trivial disappointments which all of us meet throughout our lives, and which hurt more keenly around the midchannel when romance ebbs and ambition is not yet dimmed by senility. Not only such causes, but an incipient infection, a beginning of a serious organic disease, overwork, or many other mishaps may be the trigger that sets off the series

of symptoms which accounts for so much real misery.

With these characteristics clearly in mind, the first obvious thing to do in the actual treatment is to find the exciting cause and remove it. If it recurs, as it frequently does, we must continue to remove it. If this factor is an incipient organic disease, it must be located by a physical examination. Sometimes repeated examinations are necessary. When no organic lesions are present as the underlying cause of this syndrome, the treatment requires medical wisdom and an abundance of sympathy, tact, and gentle perseverance. Obviously the man who is about to see his bank closed and himself disgraced is loathe to confess it even to his doctor. Likewise the man who fears he will soon lose his job, the unmarried woman who suffers from sex hunger, the jilted lover, and the wife who fears she has lost her husband's love, will be no less reluctant to divulge the beginning of his or her ill health. Nevertheless the exciting factor must be found, and then one can begin the consistent and persistent explanation and reassurance that will with certainty bring back health and happiness to this type of sufferer. The psychoanalysts have discovered one real factor in the treatment of neuroses; namely, that repeated explanations and repeated authoritative, firm but friendly, reassurances are absolutely necessary if we wish to cure the patient of his ailment. These people are like flat bottomed ships. They list from disease with the "greatest of ease." They must be righted again and again in order to keep on anything resembling an even keel through life's tempestuous sea.

Of course it goes without saying that the physical condition of these individuals must be kept as nearly perfect as possible. They must not be allowed to undertake tasks which, though bearable for normal persons, are nevertheless excessive for them. They require long sleeping hours, frequent vacations, and much relaxation. Their stomachs cannot stand the abuses that other people's digestive apparatuses take daily. Temporary nervous upsets must be cared for by the proper kind of sedatives before such upsets send the patients back into the slough of despondency. In a word, because they are not seaworthy, they should do their life's sailings in relatively smooth seas.

THE DOCTOR AND VACATIONS

Physicians the world over probably prescribe and advise rest as a form of treatment more often than any other one mode of therapy; yet all too seldom do they become introspective enough to realize that this advice could and should be applied to themselves as well. We are reminded of the old

and familiar adage which reads in part, "you should practice what you preach," and we feel it might be well for the busy practitioner to give some thought to this suggestion.

Few professions or trades demand so much of their members as does the medical profession. Conscientious concern over patients' welfare, late calls, puzzling cases, emergency situations, and the many civic duties expected of the physician, tend to take their toll in making him call again and again on his reserve strength. How vitally important then is the building up and maintaining of this reservoir. The most precious possession of the successful practitioner of medicine is his health, both physical and mental, and it should always be one of his major concerns. His reputation rests largely on his ability to think clearly and logically, and to endure the all too frequent nerve-wracking strains incident to his chosen profession.

Summer time is vacation time. Every physician who reads this has undoubtedly forced a vacation on some busy business executive or a very "tied-down" housewife; but how many physicians have intelligently diagnosed their own conditions, characterized by fatigue, nervousness, "grouchiness," and "touchiness," as an indication for a well-earned vacation. Maybe the broad surface of a sparkling lake surrounded by densely wooded hills, the creak of oar-locks, a fishing pole, and the favorite pipe, far away from the incessant clamor of the telephone—maybe such a vacation does not appeal to everyone; but we feel that the mind and body absorb new strength and life in the quiet peacefulness of Nature's silence.

A few weeks of this summer remain in which to take that long-promised rest. In other words, "try a dose of your own medicine," spend a week or two away from your office, and return with renewed vigor and enthusiasm for the months to come.

GRADUATE EDUCATION FOR PRACTICING PHYSICIANS*

R. L. SENSENICH, M.D., South Bend, Indiana

The organization of graduate education for practicing physicians presents a quite different problem in the United States from what it might in the smaller and more densely populated nations of Western Europe. The variable elements are extreme; such states as Rhode Island and Connecticut are so limited in area and so dense in population that nearly every physician can be reached from a few centers; Montana, Texas, and California are so large and have such significant local varia-

tions in population that it is extremely difficult to reach all sections with uniform facilities.

Questionnaires concerning the extent and character of graduate education for practicing physicians were sent to the secretaries of all state medical societies. Replies were received from forty-seven state secretaries. Thirty-eight returned questionnaires; of these thirty-eight, ten reported no courses, and two of the secretaries replied saying no courses were given. Five secretaries did not return the questionnaires, but stated that graduate courses sometimes were given. The best estimate that can be made is that there are thirty-four states, including the District of Columbia, that have some form of organized graduate education. Another state plans to start courses this year, and another supplies the information that a fund grants a number of one-month scholarships for practicing physicians at leading universities. Only one state reports abandonment of courses for lack of interest.

Twenty-five state medical societies sponsor the courses, twenty-two conduct them, and eighteen do both. In several states, colleges, state health departments, social security administrators and various foundations have cooperated.

Twenty-four courses include lectures; fifteen demonstrations; twenty conduct clinics; and thirteen use all three forms of education. The states which list only one or two methods of instruction often report that they are preparing to utilize other methods. Some states feel that by making their annual meeting center around scientific discussions, it is possible to reach a larger percentage of their members for short, intensive work than could be done in any other way with the resources available.

A wide divergence as to length of courses probably indicates a tendency to lengthen the period of training. The most common form is five or six weekly lectures in a course. There seems to be general agreement that it is better to separate the meetings by a week than to give them on consecutive days.

Naturally the character of the instructors is determined by the available sources. Where strong medical schools exist, much use is made of their faculties. Instructors are brought from other states and use is made of local specialists and outstanding practitioners. Nineteen states use members of a medical school faculty and sixteen employ practicing physicians. There is much duplication, as twelve states indicate that both types of instructors are used. In nine states, "other instructors" are used; these are drawn from public health departments, laboratories and outside specialists. In nearly every state the final decision as to in-

*This is the third in a series of special articles covering various phases of postgraduate instruction. Other articles appeared in the May and June issues of the Journal.

structors rests with some agency of the state medical society, frequently in cooperation with medical colleges, public health departments or other cooperating organizations. In a few states management is confined almost entirely to the medical school which selects the instructors. There is considerable permanency in the staff of instructors and apparently some difference of opinion as to whether this is an advantage or disadvantage, some stating that they try to make changes annually and others that they try to retain the same instructors.

The question as to the locations in which such courses were given served to emphasize the diversity of problems already mentioned. Nearly every state conducts some form of graduate education at a central location and also has some method by which it attempts to reach all sections of the state. Some located courses in every Congressional district; others rotated the locations annually; several stated that special efforts were being made to reach rural physicians; in a few cases nearly every county seat town being used.

Emphasis is placed upon courses for general practitioners in twenty-three states, and upon specialties in eight. Where specialties are taught, they are organized for the benefit of general practitioners and not for the making of specialists. Of the specialties, obstetrics and pediatrics are by far the most common; others are public health, syphilis, ethics, medical economics, and, in one state, medical society organization.

The courses are financed by appropriations from the treasury of state medical societies in sixteen states; by registration fees in sixteen; and by financial assistance from other sources in thirteen. Probably a majority of the states derive their income from more than one of these sources. At the time the questionnaire was answered a number of states were contemplating the use of Social Security funds for the courses provided under that Act. This is possibly the most important impending change visible. It would appear that within a few years, many state medical societies will cooperate with the Social Security Administration in some forms of graduate education.

On the final question as to the results of these graduate educational activities there is great unanimity of approval. In only one state was there an indifference which has led to abandonment of educational work. There appears to be no way in which the number of courses conducted can be summarized, as they vary from one course to one hundred and in many cases this variation is due to the duration of each course and different methods of accounting. The number of persons who

attend a course annually naturally also varies. The figures given for attendance are generally estimates and in many cases no such estimates are given. Those that do report vary from 150 to 2,648.

THE IOWA USE TAX

An inquiry was recently addressed to the offices of the Iowa State Medical Society by one of the clinics in Iowa regarding the application of the Iowa Use Tax to the medical profession, particularly to those who were dispensing drugs. This inquiry was referred to the Iowa State Board of Assessment and Review. Their reply is quoted herewith for the information of other members of the Society who may be interested.

The Board held that the same ruling was applicable regarding the Use Tax as for the Retail Sales Tax. In other words, where the physician or surgeon is regarded as being a user or consumer of tangible personal property under the Retail Sales Tax Law, he is likewise the consumer or user under the new Use Tax Law. If he makes purchases of medicines or medicinal supplies for his own use or consumption as mentioned in the first paragraph of the ruling concerning the Retail Sales Tax Law, he must either pay the two per cent tax thereon to his seller at the time of purchase or he becomes responsible for the filing of a Use Tax Return with the Use Tax Department of the State Board of Assessment and Review at the close of each quarterly period in which such purchases are made, and must pay the tax direct to that office. In addition to the medicines and medicinal supplies just mentioned, the physician is the user or consumer of tools and office equipment and of office supplies, and if such purchases are made in such a way that the two per cent tax is not paid thereon to the seller, these purchases also must be included in his Use Tax Return.

For the further information of physicians, the first paragraph of the ruling with reference to physicians and surgeons under the Retail Sales Tax Law, referred to above, is quoted herewith:

"Physicians and surgeons primarily render personal services. They are users or consumers of such tangible personal property as medicines, drugs, dressings, bandages, and the like used by them incidentally in the performance of personal services, irrespective of whether or not such items are billed separately to the patient. The person selling such articles to a physician or surgeon is making a sale at retail, and must pay a retail sales tax as to his gross receipts from such sales."

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Program Committee Meeting Hotel Fort Des Moines, Des Moines July 11, 1937

The Program Committee, consisting of the Committee on Scientific Work plus the three section chairmen, of the Iowa State Medical Society met at the Hotel Fort Des Moines, Sunday, July 11, 1937, at 1:00 p. m.

Roll Call: Edward M. Myers, President, Boone; Robert L. Parker, Secretary, Des Moines; L. E. Cooley, Dubuque, Chairman of the Medical Section; N. M. Whitehill, Boone, Chairman of the Surgical Section; Abbott M. Dean, Council Bluffs, Chairman of the Eye, Ear, Nose and Throat Section.

Transactions: 1. Discussion as to the type of meeting desired. Committee decided that the program which had been in force the past two years, i. e., general sessions in the mornings and sectional conferences of the three main sections in the afternoons, should be continued. 2. Tentative outlines arranged for the general sessions programs. 3. Discussion of guest speakers desired for each section. Selections approved and chairmen of the sections authorized to contact these men and advise State Society office of acceptances. 4. Discussion of facilities needed for meeting place. Secretary and Executive Secretary were delegated to make adequate arrangements. 5. Discussions of possibility of a "hobby exhibit." 6. Provision made for another meeting of committee early in fall, at which time subjects and speakers for sectional conferences should be well in hand. 7. Meeting adjourned at 4:30 p. m.

Speakers Bureau Committee Meeting Pine Lake State Park, Eldora July 20, 1937

The Speakers Bureau Committee of the State Society met Tuesday, July 20, 1937, at Pine Lake State Park in Eldora, at 2:30 p. m.

Roll Call: D. J. Glomset, Des Moines, Chairman; Earl B. Bush, Ames; S. D. Maiden, Council Bluffs; James Dunn, Davenport, and L. C. Kern, Waverly. Others in attendance were Felix A. Hennessy, Calmar, and Mrs. W. A. Seidler, Jamaica, health chairman of the Iowa Federation of Women's Clubs.

Transactions: 1. Summary of the work of the committee during the past year presented and discussion of postgraduate work for the coming fall. Committee decided to offer courses in metabolism and endocrinology to Waterloo and Council Bluffs, a clinic course to Des Moines, and the cancer course to the seventh district. Definite locations for the University and "refresher" courses were not arranged, but it was agreed that northern Iowa was entitled to them. 2. Mrs. Seidler asked the help of the Iowa State Medical Society in furthering a health program

for the Federation and pledged her cooperation. 3. Plans for three different programs for district meetings were formulated as well as plans for county society meetings. 4. Agreement reached that talks to college audiences should be continued and this work expanded. 5. Usual program of presenting health talks to various lay organizations was approved. 6. Radio talks as now prepared and presented approved by committee to be continued. 7. Discussion of newspaper health releases which are now being sent to one hundred papers in the state. Committee decided to ask help of Councilors, deputy councilors and county society secretaries in reaching more newspapers. 8. Proposal to have the Councilors approve the physicians used by the Bureau in the past year and recommend new ones was approved. 9. Meeting adjourned at 5:15 p. m.

Meeting of the Medical Economics Committee Hotel Fort Des Moines, Des Moines July 25, 1937

The Medical Economics Committee of the State Society met in Des Moines on Sunday, July 25, 1937, at 1:00 p. m. with representatives of the Rural Resettlement Administration.

Roll Call: T. F. Thornton, Waterloo, Chairman; J. C. Hill, Newton; M. C. Hennessy, Council Bluffs. Others in attendance were: Robert L. Parker, Des Moines, Secretary; B. W. Lodwick, State Rural Rehabilitation Director; M. E. Hays and Dr. B. L. Williams of the Resettlement Administration.

Transactions: 1. Explanation by Mr. Hays of the program which the Rural Resettlement Administration is trying to work out with the farmers. It is trying to rehabilitate them and is a rehabilitation program rather than resettlement. The people in Iowa who are clients of the Resettlement Administration are those farmers who are unable to get credit from any other sources. It is the feeling of the Administration that it is better to loan these people money to put them back on their feet and enable them to make a living than to force them to go on relief. 2. Explanation by Mr. Lodwick of the detailed method in which the Administration makes these loans and grants. Has three types of loans. One is an outright grant for those clients who need a little money for living expenses only. The standard loans are made on a five year basis and are designed to enable the farmer to buy equipment, etc., that is necessary for him to make a living. There is also an emergency loan for a period of eighteen months, for seed and feed. 3. Table submitted by Mr. Lodwick giving the number of each type of client per county for the past year in Iowa. 4. Dr. Williams stated that the aim of the Administration now was to work out with state and county medical societies plans whereby these clients would be assured of somewhere near adequate medical care and the doctors would be remunerated for their services. 5. Discussion of plans in some of the neighboring

(Continued on page 444)

WOMAN'S AUXILIARY NEWS

MRS. FRED MOORE, *Chairman of Press and Publicity Committee*
3407 Lincoln Place Drive, Des Moines

President—MRS. S. E. LINCOLN, 2220 East Thirty-second Street, Des Moines
Secretary—MRS. JAY C. DECKER, 722 Thirty-sixth Street, Sioux City
Treasurer—MRS. WILLIAM R. HORNADAY, 3011 High Street, Des Moines

SUMMER ROUND-UP EXAMINATIONS

In Iowa, for the past few years, the Iowa Congress of Parents and Teachers and the Iowa Federation of Women's Clubs, in cooperation with the State Department of Health and members of the Iowa State Medical Society, have sponsored examinations of children who are to enter school for the first time in the fall. The summer round-up examinations are for the obvious purpose of discovering and correcting remedial defects at an early date, and protecting these children against the preventable diseases. For some time it has been felt that these examinations should be conducted in the offices of physicians instead of at a clinic held only for this express purpose. In a recent issue of the *Iowa Parent-Teacher*, Dr. J. H. Kinnaman of the State Department of Health, discussed this plan, setting forth the following outline as an effective approach to the problem of meeting the needs of the underprivileged child:

"A committee of the local parent-teacher association consults with the officers of the local county medical and dental societies to secure the support and participation of those professions, and to consummate an agreement regarding the method of payment of professional workers for services rendered in connection with the examination.

1. Of the privileged child, in the office—local county medical societies have, in the past, offered to make the necessary examination during a designated period of time for a fee determined by that society, to be paid at the time of the examination by the parents.

"The local county medical society, in caring for the less privileged child in the community, may propose:

1. To examine, for a sum to be paid by the sponsoring agency, all children in the community known to be underprivileged.

2. To examine all children in the community known to be underprivileged, payment to be made for professional services on an hourly basis.

3. To examine all children in the community known to be underprivileged for a "bargain day" price per examination, payment to be made by the sponsoring agency.

"When any one of the methods previously named is followed, the county medical society furnishes the sponsoring agency with a list of participating physi-

cians. The latter, in turn, in its educational program, passes the list on to the parents. The parents then have freedom of choice among the participating physicians."

REPORT OF IOWA MEMBERSHIP IN THE
WOMEN'S FIELD ARMY FOR THE
CONTROL OF CANCER

Mrs. C. W. McLaughlin, Washington
State Commander

First District—Mrs. P. R. V. Hommel, Elkader, Vice commander
Clayton County\$ 117.25
Howard County 3.00

\$ 120.25

Second District—Mrs. H. E. Woodward, Whittemore, Vice commander
Franklin County\$ 6.00
Hancock County 7.00
Humboldt County 51.50
Kossuth County 124.79
Worth County 27.00

\$ 216.29

Third District—Mrs. C. C. Collester, Spencer, Vice commander
Clay County\$ 44.87
Lyon County 108.00
Osceola County 16.83
Palo Alto County 10.00
Pocahontas County 9.00
Sioux County 60.50

\$ 249.20

Fourth District—Miss I. M. Witke, Sioux City, Vice commander
Buena Vista County.....\$ 99.75
Cherokee County 14.00
Ida County 30.00
Monona County 44.00
Plymouth County 19.00
Sac County 47.00
Woodbury County 334.90

\$ 588.65

Fifth District—Mrs. S. E. Lincoln, Des Moines, Vice commander
Calhoun County\$ 1.00
Webster County 36.00

\$ 37.00

Sixth District—Mrs. H. C. Keiber, Waterloo, Vice commander
Black Hawk County.....\$ 83.00
Jasper County 5.00
Marshall County 12.00

\$ 100.00

Seventh District—Mrs. J. W. Ballard, Cedar Rapids, Vice commander
Buchanan County\$ 36.50
Cedar County 62.00
Clinton County 44.00
Delaware County 34.00
Dubuque County 630.00
Jackson County 41.00
Johnson County 200.00
Jones County 114.50
Linn County 565.09

\$1,727.00

Eighth District—Mrs. J. P. Hollowell, Fort Madison, Vice commander

Henry County	\$ 7.00
Washington County	114.14
	<hr/>
	\$ 121.14

Ninth District—Mrs. Hunt, Ottumwa, Vice commander
No Report.

Tenth District—Mrs. J. V. Richardson, Creston, Vice commander

Adair County	\$ 16.00
Clarke County	8.00
Madison County	37.00
Ringgold County	32.35
Union County	122.30
Warren County	24.00
	<hr/>
	\$ 239.65

Eleventh District—Mrs. M. C. Hennessy, Council Bluffs, Vice commander

Audubon County	\$ 7.00
Cass County	127.00
Fremont County	186.00
Harrison County	54.25
Mills County	279.60
Montgomery County	15.83
Page County	15.60
Pottawattamie County	540.55
Shelby County	50.70
	<hr/>
	\$1,276.53
Grand Total	<hr/>
	\$4,675.71

DALLAS-GUTHRIE SOCIETY

The quarterly meeting of the Dallas-Guthrie Medical Society and its auxiliary was held at the Perry Golf and Country Club, Perry, Iowa, Wednesday, July 21. The regular routine of the meeting was changed, and the medical society entertained the wives and guests at a six-thirty dinner, following an afternoon of golf. James A. Downing, M.D., of Des Moines, furnished the scientific portion of the evening program, presenting an illustrated lecture on "Foreign Bodies in the Bronchi." Special guests of the society were Dr. and Mrs. Downing and Dr. and Mrs. S. E. Lincoln, all of Des Moines; Dr. and Mrs. Eugene O'Malley of St. Louis, Missouri, and Mrs. Gladys Kirby.

Auxiliary members will be glad to know that Mrs. E. L. Bower of Guthrie Center was able to drive with her husband to Perry and enjoy the evening with us.

Mrs. (P. E.) Kate S. Beckman.

CORRECTION

A clerical error was made in the transcribed report of the Committee on Venereal Disease Control in the Transactions of the House of Delegates as published in the July issue of the JOURNAL. On page 363 of that JOURNAL, the last sentence under the paragraph headed by the numeral 4 should have read: "Your Committee did not approve free laboratory service only through a central laboratory." The changing of the word only to except, as it was published, entirely reversed the meaning of the sentence. The action taken by the Committee was to the effect that the Committee approved the principle of free laboratory service in the control of venereal diseases provided that such service would not be offered through a central laboratory alone but through branch laboratories throughout the state.

SPEAKERS
BUREAU ACTIVITIES

MERLYN BUSH CALL, M.D.

1883-1937

One of the privileges and joys of serving our society as a member of the Speakers Bureau Committee is the opportunity to develop friendships with fellow physicians in every part of the state. This joy, however, carries with it the grief that comes when we lose friends thus made.

Dr. Merlyn Call of Greene had become a friend to every member of our committee. He was called upon many times as an emissary of progressive medicine, and his wholehearted cooperation endeared him to the entire committee. Invariably we received glowing tributes from the audiences he addressed for us. However, that was not all he did for the Speakers Bureau. He found time to write us many encouraging letters, and we treasure the constructive criticism of the Bureau which he sent us from time to time. In addition to our respect for him as a physician, we all learned to love him as a man.

Dr. Call is gone, and his passing leaves an empty space in our group of friends. Our sense of loss is great, and yet we are happy for having had the privilege of working with him. We shall miss him deeply, but we can remember that he did his share in making this state a better place in which to live.

POSTGRADUATE COURSES

The Speakers Bureau Committee, at a meeting held July 20, discussed postgraduate courses for fall. Waterloo and Sheldon were chosen as sites for two courses, and Monticello was mentioned as the site of the cancer course if the seventh district wishes to have it at this time.

In addition, there will be available three "refresher" courses. Northwest Iowa is entitled to first choice of these, because of the fact that southern and eastern Iowa have already had the opportunity of attending such courses. The Speakers Bureau will be very glad to hear from any county society wishing one of these courses dealing with obstetrics and pediatrics.

RADIO SCHEDULE

WOI—Fridays at 4:00 p. m.
WSUI—Mondays at 7:45 p. m.

- August 6—Infantile Paralysis, J. E. Dyson, M.D.
- August 13—The Causes of Flat Feet in Children, F. L. Knowles, M.D.
- August 20—Sanitation in the Farm Home, Carl F. Jordan, M.D.
- August 27—Is Your Child Ready for School?, P. E. Gibson, M.D.

SOCIETY PROCEEDINGS

Cerro Gordo County

A summer meeting of the Cerro Gordo County Medical Society was held Tuesday, July 6, in Mason City. The program was devoted to the subject of oxygen therapy. Walter Boothby, M.D., of the Mayo Clinic, Rochester, presented the clinical side of the program, and Mr. J. I. Banash, consulting engineer, talked on the technical and engineering aspects of oxygen administration. There will be no further meetings until September.

H. W. Morgan, M.D., Secretary

Johnson County

The annual picnic of the Johnson County Medical Society was held Wednesday, July 7, at six o'clock, at the home of Dr. and Mrs. George C. Albright in Iowa City. Physician hosts for the occasion were Drs. Albright, Boyd, E. Dulin, Hazard, Love, Russell, P. Moore, Muench, Parsons, Peck, S. C. Ware, Warner and Williams.

W. M. Fowler, M.D., Secretary

Louisa County

T. L. Eland, M.D., of Letts, was the speaker of the evening when the Louisa County Medical Society met Thursday, July 8, in Letts, for a dinner session. Dr. Eland addressed the group on Reminiscences, Experiences and Mistakes of a Country Physician, after which the members present entered into a general discussion of the topic.

Webster County

The Webster County Medical Society held its annual summer meeting at the Fort Dodge Country Club, Friday, August 6. An afternoon of golf was followed by a dinner at the club house, after which the guest speaker for the occasion, Frank J. Heck, M.D., of The Mayo Clinic, Rochester, presented a discussion of The Diagnosis and Treatment of the Commoner Blood Dyscrasias, with particular reference to the anemias.

PERSONAL MENTION

Dr. Smith A. Spilman and William Hansell, of Ottumwa, were honored at the recent annual meeting of the American Medical Association held at Atlantic City, by being elected affiliate fellows of that organization.

Dr. Daniel Willard Coughlan has announced the opening of offices for the practice of general surgery in Des Moines. Dr. Coughlan was graduated in 1932 from the State University of Iowa, College of Medicine.

Dr. Regnar M. Sorensen of Cherokee, spoke before members of the county nursing sub-committees at

Blencoe, on Tuesday, June 29, taking for his subject "Health and What To Do About It".

Dr. and Mrs. J. Fred Clarke have returned to their home in Fairfield, after a two months' trip abroad, during which time Dr. Clarke attended the Rotary International Convention at Nice, France.

Dr. Frank D. Edington has located in Spencer where he will be engaged in the practice of medicine. For the past four years, Dr. Edington has been connected with the medical staff of the Fort Des Moines Army Post, and previously had practiced for two years at Strawberry Point.

Dr. Harold W. Morgan of Mason City, was guest speaker Monday, June 28, for the recently organized Cerro Gordo county group, which has for its purpose the fighting of tuberculosis in that county.

Dr. Wilbur C. Thatcher, who for the past three years has been a member of the faculty of the State University of Iowa, College of Medicine, is locating in Fort Dodge, where he will be engaged in the private practice of medicine.

Dr. and Mrs. Walter Anneberg and family have returned to their home in Carroll from their European trip, during which Dr. Anneberg attended the foreign assembly of the Interstate Postgraduate Medical Association.

Dr. Hugh Tamisiea of Missouri Valley, has resumed the practice of medicine after an absence of several years due to ill health.

Dr. Dellivan M. Fuiks, who for the past two years has been engaged in graduate work in orthopedics under Dr. Arthur Steindler at the State University of Iowa, College of Medicine, has located in Davenport, where he will be associated with Drs. William G. Bessmer and George M. Middleton. Dr. Fuiks will specialize in orthopedics.

The following new associations have been announced during the past month in the state of Iowa: Dr. Gaylord Andre, graduate of the State University of Iowa, College of Medicine, with Dr. John R. Gardner at Lisbon; Dr. Sterling A. Barrett, graduate of Jefferson Medical College, Philadelphia, with Dr. Fred E. Carpenter of Newton; Dr. Porter S. Cannon, graduate of the University of Nebraska, College of Medicine, with Dr. John S. Deering of Onawa; Dr. Edward Kennedy, graduate of the State University of Iowa, College of Medicine, with the New Hampton Clinic; Dr. John Mueller, graduate of

the State University of Iowa, College of Medicine, with his father, Dr. Emil F. Mueller of Dyersville; **Dr. Paul F. Olson**, graduate of Rush Medical College, University of Chicago, with the Medical Associates in Dubuque; **Dr. Roger L. O'Toole**, graduate of the State University of Iowa, College of Medicine, with Dr. William F. Hamilton of Marshalltown; **Dr. Clark Rominger**, son of Dr. Clark W. Rominger of Waukon, graduate of the State University of Iowa, College of Medicine, with Dr. George Kessel of Cresco; **Dr. Maurice W. Sbertoli**, graduate of St. Louis University School of Medicine, with Dr. Frederick F. Null of Hawarden; **Dr. Paul L. Wolpert**, graduate of Creighton University School of Medicine, with Dr. Leo A. Gaukel of Onawa; and **Dr. Harry L. Vander Stoep**, graduate of the State University of Iowa, College of Medicine, with the Le Mars Clinic.

The following new physicians have located in various towns and cities in Iowa during the past month: **Dr. Carl F. Baumeister, Jr.**, graduate of the State University of Iowa, College of Medicine, recently of Hot Springs, Arkansas, in Council Bluffs; **Dr. E. C. Knight**, graduate of the State University of Iowa, College of Medicine, in Winterset; **Dr. R. M. Laughlin**, State University of Iowa, College of Medicine, in Tipton; **Dr. D. H. Nord**, graduate of the St. Louis University School of Medicine, taking over the practice of Dr. H. S. Elmquist in Cambridge; **Dr. C. D. Shope**, graduate of the State University of Iowa, College of Medicine, in Terrill; **Dr. K. R. Sorenson**, graduate of the University of Minnesota Medical School, taking over the practice of the late Dr. F. D. Ayers in Sabula; **Dr. B. F. Swezey**, who has practiced for the past twenty years in Buffalo, Minnesota, in Allison; and **Dr. Donald Mueller**, son of Dr. Emil F. Mueller, graduate of the State University of Iowa, College of Medicine, in Dubuque.

MARRIAGES

The marriage of Miss Julia M. Edick of Eldora and Dr. William R. Arthur of Hampton, took place Thursday, July 22, in Hampton. After an extended trip through the western states, they will be at home in Hampton, where Dr. Arthur has been practicing for the past twenty years.

Miss Lenore Clinch, daughter of Mrs. Catherine Clinch of Elgin, Illinois, and Dr. William G. Kruckenberg were married July 3, at the home of the bride's sister in Chicago. Dr. Kruckenberg was graduated in 1935 from the State University of Iowa, College of Medicine, and interned at Harper Hospital in Detroit, Michigan. Following a wedding trip to Wisconsin, the young couple will be at home in Cedar Rapids, where Dr. Kruckenberg is entering the practice of medicine.

DEATH NOTICES

Ayers, Franklin D., of Sabula, aged seventy, died June 24, following a short illness. He was graduated in 1892 from the Baltimore University School

of Medicine, Baltimore, Maryland, and at the time of his death was a member of the Jackson County Medical Society.

Call, Merlyn Bush, of Greene, aged fifty-four, died in the Waverly Hospital on July 14 of uremia, after an illness of several months. He was graduated in 1911 from the State University of Iowa, College of Medicine, and at the time of his death was a member of the Butler County Medical Society.

Killeen, Mary Augusta, of Dubuque, aged sixty-five, died July 15, following an illness of several weeks. She was graduated in 1904 from the University of Michigan Medical School at Ann Arbor, and at the time of her death, was a member of the Dubuque County Medical Society.

Moore, John H., of Liberty Center, aged sixty-seven, died June 11 following a paralytic stroke. He was graduated in 1906 from Keokuk Medical College, College of Physicians and Surgeons, and at the time of his death was a member of the Warren County Medical Society.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the JOURNAL office.

Fifth International Congress of Radiology—September 13 to 17, Chicago.

American Congress of Physical Therapy, Sixteenth Annual Clinical and Scientific Session, September 20 to 24, Netherland Plaza Hotel, Cincinnati, Ohio.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

American Board of Ophthalmology will conduct examination in Chicago, October 9. All applications and case reports, in duplicate, must be filed at least sixty days before the date of examination.

Military Surgeons Convention—October 14 to 16, Los Angeles, California.

Omaha Mid-West Clinical Society, Fifth Annual Assembly, October 17 to 22, Hotel Paxton, Omaha, Nebraska.

International Medical Assembly, Interstate Post-graduate Medical Association of North America, October 18 to 22, 1937, Municipal Auditorium, St. Louis, Missouri.

New York Academy of Medicine, 1937, Annual Graduate Fortnight—November 1 to 12, New York.

American Board of Obstetrics and Gynecology will conduct examination November 6, 1937. All applications must be filed at least sixty days before the date of examination.

American Association of Orthopedic Surgeons, Annual Meeting—January 15 to 19, 1938, Los Angeles, California.

American College of Physicians, Twenty-second Annual Session, April 4 to 8, 1938, New York City.

**MINUTES OF MEETINGS OF STATE SOCIETY
OFFICERS AND COMMITTEES**

(Continued from page 439)

states: Indiana, Missouri, North Dakota and Ohio. 6. Discussion of possible features of a plan in Iowa. Committee stated that the action of the House of Delegates and Executive Council made it mandatory that any plan be based upon fees for doctors according to minimum fee schedule of Iowa State Medical Society. 7. Committee voted that a plan similar to that of the other states which had been discussed be drawn up and modified in accordance with suggestions made by the Committee members. Committee voted that such a plan be recommended to the county medical societies. This action was taken with the understanding that as far as possible individual doctors will continue to care for these patients as they have been doing and wait for their remuneration until these people are back on their feet financially. The plan was devised to help the members of those county societies in which there were so many of these clients that financial remuneration of the physician was necessary at this time. 8. Committee decided that this plan when drawn up should be sent to the members of the Committee for final inspection and approval before being sent to the county societies. 9. Committee was advised that the Polk County Medical Society had referred a request from the Iowa Health Association (formerly the Sentinel Hospital Insurance Association) to the Committee. The Committee decided that it could not act upon the request of this Association until it had been asked to do so by the Association itself. 10. Meeting adjourned at 5:30 p. m.

**Meeting of the Board of Directors of the
Iowa Emergency Relief Administration
Oransky Building, Des Moines, Iowa
July 29, 1937**

The Medical Economics Committee had been authorized by the Executive Council to meet with representatives of the Iowa Emergency Relief Administration and advise them of the actions recently taken concerning the medical relief program of the Administration by the House of Delegates and Executive Council of the Iowa State Medical Society. Due to the inability of the Committee to be present, the Secretary and Executive Secretary of the Society met with the Board at 10:30 a. m., Thursday, July 29, 1937. They advised the Board of the actions taken by the Society and asked that a Committee be appointed from the Board to meet with the Medical Economics Committee of the State Society and work out a solution to this problem. The Board voted to appoint such a committee and it was agreed that this committee of three, headed by Dr. T. C. Denny, medical director of the Iowa Emergency Relief Administration, would be able to meet with the Medical Economics Committee of the State Society early in September.

**FIRST SUPPLEMENT TO THE U. S. P. XI
RELEASED**

The following announcement has been received in the JOURNAL office from E. Fullerton Cook, Ph.M., Chairman of the U.S.P.XI Committee of Revision, and is submitted herewith, since we feel that many of our members will be interested in learning of this supplement and how they may obtain it, since many new standards have been established for a number of Pharmacopoeial products.

"The first supplement to the Eleventh Revision of the United States Pharmacopoeia has just been released and will become official on December 1, 1937. It is a booklet of about one hundred pages in a substantial binding, and may be obtained from the Mack Printing Company, Easton, Pennsylvania, from your wholesale druggist, or from any other distributor of the U. S. P., at one dollar a copy, postpaid. In this supplement, all of the texts revised to June 1, 1937, are reprinted in full so that there can be no misunderstanding of the authorized changes.

"This supplement was prepared under the same careful procedure followed for the original text. Each proposed change was carefully investigated by the appropriate subcommittee and submitted for the consideration of the Revision Committee. The tentative text was then given wide distribution to solicit criticisms and suggestions. A hearing, conducted by members of the Executive Committee, was later arranged and announced, and anyone interested was invited to be present. Following the hearing the members of the Executive Committee held a conference with the officials of the Food and Drug Administration at Washington and then decided upon the text, which was then submitted in full to the members of the Revision Committee for discussion and approval. Finally the Board of Trustees decided the date of issue for the supplement, also the date when it is to become officially a part of the U. S. P. XI, and the price for which it is to be sold.

"The issuance of the first supplement to the Eleventh Revision inaugurates an advanced program in American pharmacy. This makes possible the prompt revision of tests or assays whenever it is found necessary, and even the recognition of added therapeutically important substances, if new conditions make such action desirable. This plan will make the Pharmacopoeia more responsive to progress, more serviceable as a technical guide to the health professions, and more dependable as an authority for drugs and medicines under the federal and state pure food and drugs acts. We sincerely hope that this new and forward looking policy will receive the fullest support from all who are interested in the Pharmacopoeia, and that all users of the U. S. P. will promptly supply themselves with copies of the first supplement to the Eleventh Revision."

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. MCCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

Physicians—Past and Present of Jasper County, Iowa

M. R. HAMMER, M.D., Newton, Iowa

(Continued from last month)

E. D. Downs, who practiced at Baxter, was graduated in 1885 from the State University of Iowa, College of Medicine.

Harry P. Engle was born in 1872 in Newton. He was graduated from the State University of Iowa, College of Medicine, in 1898. He is a member of the American Academy of Ophthalmology and Otolaryngology.

Perry Engle was born at Benton Ridge, Hancock County, Ohio, in 1841. He was graduated from the University of Michigan Medical School in 1871. He also was graduated from Long Island College of Medicine. In 1872 he had charge of the Third Street Hospital in Cincinnati, Ohio. In 1876 he established the *Newton Herald*. In 1889 Dr. Engle was elected State Senator by a majority of about two hundred. He was the first man to be elected to the legislature in Jasper County in opposition to the Republican nominee. Dr. Engle served in the Twenty-third and Twenty-fourth General Assemblies. Dr. Engle had two sons, both graduates of the State University of Iowa; Dr. Harry P. Engle from the College of Medicine, and Bert J. Engle from the College of Law. Dr. Engle was a man who knew no fear. An angry medical rival once challenged him to fight a duel, and the doctor accepted. The party challenged has the right to choose the weapons and name the distance, and Dr. Engle chose sawed-off shot guns, at a distance of three paces. His opponent refused to fight. Dr. Engle died June 30, 1935, and was buried in the Newton Cemetery. He would have been ninety-five years of age on his next birthday.

Harry H. Ennis, Baxter, was born in 1880, and was graduated from the University of Louisville School of Medicine, Kentucky, in 1909. He has

practiced in Baxter for several years and is quite prominent in medical affairs.

Henry C. Eschbaugh, a cousin of Dr. Perry Engle, practiced three years in Monroe and moved to Albia in 1888, where he practiced until his death in 1927. He was president of the Jasper County Medical Society in 1881, and president of the Iowa State Medical Society in 1915. He served as a member of the Iowa State Board of Health from 1921 to 1925.

John H. Faust, formerly associated with Dr. E. A. McMurray at Newton, moved to Iowa Falls, and is now practicing in Clarion.

H. C. Finch practiced in Lynnville; is now in Oklahoma.

George Franzee of Greencastle moved to Shelby County, and died.

E. M. French practiced and died in Newton.

Liberty Eaton Fellows was born in Lansing, Iowa, in 1893. He was graduated from the University of Michigan Medical School in 1918; he practiced at Ellsworth, Iowa, from 1919 to 1921; at Webster City, Iowa, from 1922 to 1928; and has been in Newton since 1928.

Raymond F. Frech was born in 1907 at St. Charles, Iowa. He was graduated in 1932 from the State University of Iowa, College of Medicine, and has been practicing in Newton for the past three years.

D. C. Garner practiced in Mingo; he was graduated from the St. Louis College of Physicians and Surgeons.

M. W. Gearheart, who practiced in Colfax, is now in Pierre, South Dakota.

W. W. Goodrich, once of Ira, is now practicing somewhere on the Pacific coast.

Charles C. Graham, formerly of Baxter, was graduated from the State University of Iowa, College of Medicine, in 1884, and located in Baxter in 1885. He left Baxter in 1910 and finally located in Whittier, California, in 1917, where he continued in active practice until the time of his death, November 28, 1929.

George W. Graham was graduated from the Drake University College of Medicine in 1905, and practiced in Baxter.

A. L. Gray located for the practice of medicine in Newton in 1854.

Howard D. Gray, a leading surgeon now located in Des Moines, practiced in Newton from 1900 to 1901, at which time he moved to Des Moines. Dr. Gray was born in 1876, and was graduated from the State University of Iowa, College of Medicine, in 1900.

Jabez Green practiced in Newton during and after the Civil War.

Adam Grimes, formerly of Kellogg, moved to Bedford, where he conducted a large and active practice.

Eli Grimes, who was born west of Kellogg, was graduated from the State University of Iowa, College of Medicine, in 1897. He moved to Des Moines, where he practiced for more than forty years before his death.

J. F. Hackett, who practiced in Kellogg, was graduated from the State University of Iowa, Department of Homeopathic Medicine, in 1889.

Alex Hall practiced in Colfax; present address unknown.

J. F. Hammer practiced at Adamson Grove. In 1876 he moved to Churdan, after which he gave up the practice of medicine, coming to Des Moines, where he was connected with the C. B. and Q. railroad for a number of years. He died in Ottumwa.

Marion R. Hammer* was born at Amboy, seven miles east of Newton, on January 26, 1853. He was graduated from the Northwestern Medical College of St. Joseph, Missouri, in 1881. For four years Dr. Hammer taught physiology in the King Medical College in Des Moines. He also taught physiology and anatomy for seven terms in the Newton Normal College; two terms in the Lynnville Friends Academy, and six terms in the public schools of Iowa, three in Jasper County, and three in Plymouth County. Dr. Hammer was coroner of Jasper County for two years, and has served several terms as city physician and health officer of Newton, and physician to the county jail. This service extends over a period of twenty years. He holds membership in the Blue Lodge, Chapter and Commandery in Newton, and the Scottish Rite and Council in Des Moines. Dr. Hammer is an honor-

ary member of the Jasper County and Iowa State Medical Societies, and is still in active practice in Newton, Iowa.

M. J. Hammond practiced in Baxter. He was graduated from the Drake University College of Medicine.

John T. Hanna practiced in Kellogg for several years; is now in active practice in Burlington.

M. R. Hardin practiced in Newton for several years, a charming woman physician, with a high sense of medical honor.

J. F. Harp, now living in Prairie City, although not in active practice, was graduated from the State University of Iowa, College of Medicine, in 1884. He is a life member of the Jasper County and Iowa State Medical Societies.

George N. Harsh was graduated from the Louisville Medical College in 1890, and located in Baxter. Because of ill health he moved to Melrose, New Mexico, in 1906, where he remained in active practice until his death in 1928.

Theodore Hart was born at New Lisbon, Ohio, December 5, 1819. When he was twenty-five years of age he began to practice medicine in Ohio. In 1855 he came to Iowa and settled near Galesburg, where he practiced until the time of his death in 1889. He was the first physician in Galesburg.

William W. Hawk was graduated in 1880 from the College of Physicians and Surgeons, Keokuk, and located in Colfax, where he practiced until his death. At one time he was a representative to the general assembly of the Iowa legislature.

J. T. Hendershot practiced in Monroe, where he died of tuberculosis.

Peter M. Herny, a son-in-law of Dr. Harp, located in Prairie City, after his graduation from the State University of Iowa, College of Medicine, in 1918.

James C. Hill was born April 21, 1878, in Newton, and received his medical degree in 1905 from Rush Medical College in affiliation with the University of Chicago. He has practiced in Newton from 1907 to the present time. Dr. Hill was president of the Jasper County Medical Society in 1935; second vice president of the Iowa State Medical Society in 1934; first vice president in 1935; and has been a member of the Medical Economics Committee of the Iowa State Medical Society for the past several years.

Leslie G. Hill was graduated in 1895 from the Hahnemann Medical College and Hospital, Chicago, and practiced in Newton before locating in Estherville, where he died February 24, 1934.

Sylvester E. Hinshaw was born in Newton in 1876. He was graduated in 1912 from the Drake University College of Medicine, and has been engaged in active practice in Newton since

* Biography prepared by Harry P. Engle.

that time. Dr. Hinshaw is one of the most prominent and influential medical men in Newton.

E. M. Holland practiced and died in Colfax. He was a former Methodist minister.

Frank Hunter practiced and died in Newton.

F. D. Jacobs practiced medicine in Kellogg, and then moved to Illinois, where he is engaged in an active successful practice.

D. F. Janeway practiced in Kellogg, later moving to Kansas, and then to Stillwater, Oklahoma, where he died about 1927.

Daniel Johnson practiced in Oklahoma. He is retired and now lives in Newton.

George Johnson formerly practiced in Newton, after which he moved to Oklahoma, where he later died.

Jens A. William Johnson was born near Fuglsang Mark, Denmark, November 20, 1885, and arrived with his family in Monona County, November, 1886. He attended the State University of Iowa for two years, in 1909 and 1910, and taught school for three years, after which he attended the University of Michigan Medical School, and received his medical degree from that institution in 1917. After practicing in Baroda, Michigan, for one year, and spending three years in special postgraduate work, Dr. Johnson located in Mapleton, Iowa, where he operated a private hospital until 1924, when he located in Sioux City. He came to Newton in 1926 and has been engaged in active practice in that city since that time. He was vice president of the Jasper County Medical Society in 1934.

G. N. Jones was graduated from the Northwestern Medical College of St. Joseph, Missouri, and practiced in Colfax until his death.

Dr. Kiebels practiced in Newton, and then moved to California.

Myrta M. Knowles was graduated in 1896 from the State University of Iowa, College of Medicine, and practiced in Prairie City, later locating in Des Moines and Hampton. She is now specializing in anesthetics in Chicago.

Paul Koeper was graduated in 1899 from Rush Medical College, and located in Baxter in 1900, where he practiced until the time of his death from a tumor of the brain, December 12, 1914.

Dr. Leary practiced at Reasnor a number of years; present address unknown.

Bismark Liesman was graduated in 1890 from Rush Medical College, and practiced in Kellogg. He died January 18, 1935.

J. A. Leonard practiced in Newton; present address unknown.

Nolton S. Lieberman was graduated in 1935 from the University of Minnesota Medical School,

and is now located for the practice of medicine in Monroe.

J. Lindley located and died, while a young man, at Mingo, Iowa.

E. W. Lore practiced and died in Monroe.

C. J. Lukins practiced in Galesburg, and later moved to Oskaloosa, where he died.

E. E. Lusk was graduated from the Hahnemann Medical College of Chicago in 1901. He was a minister in the Church of Christ in Newton; present address unknown.

Mary Lyons practiced in Metz; present address unknown.

D. W. McCannaughey practiced in Reasnor, later moving to Prairie City, where he died.

Ralph S. McLaughlin was graduated in 1926 from the State University of Iowa, College of Medicine, and practiced in Monroe. He recently moved to St. Louis, Missouri.

Edward A. McMurray was born in Newton, November 10, 1900. He was graduated in 1925 from the St. Louis University School of Medicine, and entered the practice of medicine in Newton in 1926. He was coroner in 1933, city health physician in 1935, and has served two terms as president of the Jasper County Medical Society.

J. C. McNutt practiced in Reasnor, but his present address is unknown.

John W. Martin was graduated in 1903 from Northwestern University Medical School, and located in Colfax in that year. He practiced there until 1909, when he moved to Chicago to take special postgraduate work. Dr. Martin returned to Iowa in 1913, making his residence in Des Moines, where he was in active practice until 1928, at which time he moved to Baltimore, Maryland. In 1934 Dr. Martin returned to Des Moines, and he is again engaged in the private practice of medicine in that city.

E. H. Mershon practiced in Newton for forty years, and died there.

Max Miller read medicine with J. R. Gorrell, and is now located in Newton, Kansas.

S. F. Miller practiced in Colfax, Prairie City, and finally, Baxter, where he died.

Everett Moore practiced in Newton, but is now somewhere in California.

I. H. Moore, who practiced in Prairie City for a number of years, is now located in Seattle, Washington.

Dr. Neeley was a practitioner in 1854 in Newton.

David H. Norris practiced more than forty years in Vandalia.

Dr. Packard practiced in Newton; present address unknown.

(To be continued)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- CLINICAL ALLERGY**—By Louis Tuft, M.D., Chief of Clinic of Allergy and Applied Immunology, Temple University Hospital. Illustrated. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.
- CLINICAL ENDOCRINOLOGY**—By Samuel A. Loewenberg, M.D., clinical professor of medicine, Jefferson Medical College, Philadelphia. With 194 illustrations and 37 charts and tables. F. A. Davis Company, Philadelphia, 1937. Price, \$8.00.
- CLINICAL REVIEWS OF THE PITTSBURGH DIAGNOSTIC CLINIC**—Edited by H. M. Margolis, M.D., Pittsburgh. Paul B. Hoeber, Inc., New York, 1937. Price, \$5.50.
- COLLECTED PAPERS OF THE MAYO CLINIC**—Edited by Richard M. Hewitt, M.D., Lloyd G. Potter, M.D., and A. B. Nevling, M.D., Volume XXVIII. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$12.00.
- ELECTROCARDIOGRAPHY**—By Chauncey C. Maher, M.D., assistant professor of medicine, Northwestern University. Second edition. William Wood and Company, Baltimore, 1937. Price, \$4.00.
- HEALTH EDUCATION OF THE PUBLIC**—By W. W. Bauer, M.D., Director of the Bureau of Health and Public Instruction, American Medical Association; and Thomas G. Hull, Ph.D., associate professor of bacteriology, University of Illinois, College of Medicine. Illustrated. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$2.50.
- HEART FAILURE**—By Arthur M. Fishberg, M.D., associate in medicine, Mount Sinai Hospital, New York City. Octavo, 788 pages, illustrated. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.
- THE INTERNATIONAL MEDICAL ANNUAL**—Edited by H. Letheby Tidy, M.D., and A. Rendle Short, M.D. William Wood and Company, Baltimore, 1937. Price, \$6.00.
- THE LARYNX AND ITS DISEASES**—By Chevalier Jackson, M.D., and Chevalier L. Jackson, M.D., Temple University, Philadelphia. 555 pages with 221 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.
- THE NORMAL ENCEPHALOGRAPH**—By Leo M. Davidoff, M.D., assistant professor of neurology, Columbia University College of Physicians and Surgeons; and Cornelius G. Dyke, M.D., assistant professor of radiology, Columbia University College of Physicians and Surgeons. Lea and Febiger, Philadelphia, 1937. Price, \$5.50.
- PERSONAL HYGIENE**—By C. E. Turner, M.A., Dr. P.H., professor of biology and public health in the Massachusetts Institute of Technology. With 84 text illustrations and three colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$2.25.
- PHYSICAL DIAGNOSIS**—By Don C. Sutton, M.D., associate professor of medicine, Northwestern University School of Medicine. With 298 text illustrations and eight colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.
- THE TECHNIC OF LOCAL ANESTHESIA**—By Arthur E. Hertzler, M.D., professor of surgery, University of Kansas. Sixth edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.
- A TEXTBOOK OF SURGICAL NURSING**—By Henry S. Brookes, Jr., M.D., instructor in clinical surgery, Washington University School of Medicine. With 233 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.50.

BOOK REVIEWS

AMERICAN MEDICINE

Expert Testimony Out of Court, two volumes. The American Foundation, 565 Fifth Avenue, New York, 1937. Price, \$3.50.

To those interested in an extensive discussion of many of the present day medical economic and social problems, much material may be found in the voluminous two volume report of The American Foundation Studies in Government. This organization under the editorship of Miss Esther Lape gathered information from over 5,000 communications from approximately 2,200 physicians. The letters received were in response to a request for a free expression as to whether any essential change in the present organization of medicine is needed, and if so, in what direction.

The contributors to the report "represent every state, all divisions of medicine, and all types of medical experience." Thirty-six per cent were classed as general practitioners, thirty-eight per cent as surgeons, and the remainder represented other special branches of medical practice including deans of medical schools, hospital superintendents, public health officials, etc. Most of the inquiries were addressed to physicians of twenty or more years of experience, although comment was also especially solicited from those who had been practicing about five years.

The contents of the two volumes in eleven chapters discuss the availability of adequate medical care; general principles and considerations that should underlie the organization of medical care; medical edu-

cation; specialization; group practice; the place of the hospital in the organization of medical care; public health organization; experimentation, state, county, and community plans; state medicine; health insurance, and limited state medicine and private practice. The compilation is in no sense a statistical analysis or poll of physicians to determine numerical "ayes" and "nays," but rather an attempt to gather into one place the ideas of a great variety of medical men. No particular effort is made to formulate these ideas into definite conclusions, which would seem to be an exhibition of wisdom on the part of the editors, for it is decidedly open to question as to whether or not the collected data are truly representative of the majority opinion of the American Medical Association. Nevertheless, the work is an important one, and should serve a useful purpose to the members of the medical profession at least, in that it reveals a wide divergence of opinion among its own members upon many significant medical problems, problems to which answers must eventually be found, and it is to be hoped these answers will be found by the medical profession itself rather than by political and governmental agencies.

Certainly these two volumes ought to be studied by every physician who has the future of his profession at heart, to the end that he may better inform himself concerning economic and social problems of medicine, and thereby be enabled to counsel more wisely in the gatherings of physicians, whether they be in the county, state, or national organizations.

L. F. H.

THE TREATMENT OF DIABETES MELLITUS

By Elliott P. Joslin, M.D., clinical professor of medicine, Harvard Medical School. Sixth edition, enlarged and thoroughly revised. Lea and Febiger, Philadelphia, 1937. Price, \$7.00.

This, the sixth edition of *The Treatment of Diabetes Mellitus*, has been written by Dr. Elliott P. Joslin, with the able cooperation of Drs. Howard F. Root, Priscilla White, and Alexander Marble. The present edition was made necessary by the discovery of protamine insulin by Dr. H. C. Hagedorn. The almost universal use of the newer protamine zinc insulin demands elucidation, and the author has accomplished this task admirably. He sees in this preparation of insulin, a new and advanced era in the treatment of diabetes. Protamine zinc insulin in all of its applications is thoroughly dealt with; its use in treating every phase of the disease; its discovery, method of preparation, indications and contraindications; the class of patients upon whom it should be used; its value in treating the recently discovered diabetic patient; how to change from regular insulin to the newer preparation; its use in treating the pregnant and surgical diabetic individual; its effect upon blood sugar and the many other problems that confront the doctor who treats this type of patient are most adequately treated. The etiology, pathology and metabolism, as well as the dietetic management, are completely covered. Every complication with which the author and his collaborators have come in contact is discussed from the standpoint of prevention, symptoms, their effect upon existing diabetes, and the treatment of both complication and diabetes. A chapter on the glands of internal secretion in relation to diabetes is included. Last, but not of least importance to the doctor as well as the insurance examiner or director, is a well written chapter on non-diabetic glycosuria.

The book is replete with useful information written by a man who has had a wide experience in treating diabetes—a man who has so simplified the treatment of this disease that with a minimum of effort the general practitioner can intelligently treat it. Because diabetes is so frequently complicated by diseases that fall into the realm of all branches of medicine, the reviewer feels that this volume should find an important place in the library of every physician.

E.B.W.

DIETETICS FOR THE CLINICIAN

By Milton A. Bridges, M.D., assistant professor of clinical medicine, New York Post-graduate Medical School. Third edition, enlarged and revised. Lea and Febiger, Philadelphia, 1937. Price, \$10.00.

This book contains practical working knowledge for the nutritional expert, home economist, general practitioner and hospital interne. Nutrition and

dietetics in the treatment of disease is rapidly taking its place in the field of medicine. The book is well indexed so that the busy practitioner may turn to the disease in question and quickly find a short discussion of the need for diet and the food that is indicated in the treatment.

The subject matter is divided into three parts. Part I discusses the mechanics, physiology, and chemistry of digestion, as well as the vitamin factor in diet. The classification and structure of foods and food adjuncts such as alcohol, tea, coffee, condiments and spices are enumerated. The effect of tobacco on diet is also discussed. Part II includes a short essay on the value of diet in the various diseases, and this is followed by a consideration of the disease itself and the diet indicated in the treatment. One will find included in this section, practically all of the diseases in which diet therapy is of benefit. Part III deals entirely with pediatrics, infant feeding and diseases pertaining to children. A large section of the book is devoted to tables containing the nutritive and caloric value of foods.

This very complete book is of value to the dietitian and to the doctor who wants quickly to learn about the dietetic treatment for the disease in question. It can truly be called "a practical work."

E. B. W.

THE SOCIAL COMPONENT IN MEDICAL CARE

A study of one hundred cases from the Presbyterian Hospital in the city of New York. By Janet Thornton, director, Social Service Department. Columbia University Press, New York, 1937. Price, \$3.00.

The content of this volume is the result of a study by the Social Service Department of the Presbyterian Hospital to determine first, the part which the social situation and the patient's reaction to that situation played in the development of illness; second, the rôle of the social status in the defeat of curative measures; and third, the significance of the social state upon adjustment to chronic disease.

The answer to these questions is contained in the medical and social history of one hundred cases chosen at random from the hospital files. Adverse social factors are divided into those affecting subsistence and those affecting satisfaction, and illustrative cases make these factors very clear. An analysis and discussion of the remedial measures employed to correct environmental conditions and to influence individual conduct, demonstrate what can be done by intelligent medical social service.

This book is a brief for medical social service and proves beyond question that such a service is a component part of medical care. It should be read by every superintendent of a public hospital, by everyone interested in medical social work, and every physician who reads it will be better fitted to treat the individual rather than the disease.

D.H.K.

THE 1936 YEAR BOOK OF RADIOLOGY

Edited by Charles A. Waters, M.D., and Ira I. Kaplan, M.D. The Year Book Publishers, Chicago, 1936. Price, \$4.50.

This book represents a thorough and comprehensive review of the world wide literature on radiology. It would be a distinct addition to the library, of not only the radiologist, but the general practitioner and all other specialists as well.

The articles reviewed are of practical and permanent value. The newer discoveries in the field of diagnostic radiology are emphasized, such as the etiologic factor in osteopetrosis, the effect of benzedrine sulfate on pylorospasm, the visualization of the seminal vesicles after introduction of contrast media, and numerous other stimulating contributions. In the field of radiotherapeutics, chief interest lies in the cancer problem, but newer discoveries, such as irradiation response of acute pyogenic infections, have opened up a wide field of usefulness.

We cannot commend this book too highly to all medical men.

H.W.D.

PREOPERATIVE AND POSTOPERATIVE TREATMENT

By Robert L. Mason, M.D., A.B., F.A.C.S., assistant in surgery, Massachusetts General Hospital. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$6.00.

This volume of 467 pages constitutes an excellent treatise on preparation of the patient for various operative procedures and detailed information about postoperative treatment. All fields of the surgical domain receive consideration. Complications arising postoperatively, as commonly seen in an extensive practice, are dwelt upon. Important physiologic principles underlying shock, water balance, and the buffer system of the blood are explained and given practical application. Chapters are devoted to factors of importance regarding the surgical case complicated by heart disease, diabetes, nephritis and hypertension. The care of patients with various systems involved such as the urinary tract, respiratory tract, upper and lower gastro-intestinal tract, the organs peculiar to women, etc., each receive individual attention. In summary one may say this volume serves a very useful purpose and will be a valuable adjunct to any surgeon's library.

J.B.P.

SENILE CATARACT

By W. A. Fisher, M.D., professor of ophthalmology, Chicago Eye, Ear, Nose and Throat College. Third revised edition, 150 pages and 181 illustrations. H. G. Adair Printing Company, Chicago, 1937. Price, \$2.00.

This concise book represents the experience of more than 3,000 operations for senile cataract. Three chapters are devoted to the subject of obtaining

surgical cataract technic without sacrificing the human eyes. In the first chapter Prof. E. Fuchs of Vienna describes his method of performing the capsulotomy operation. It includes all the details from the selection of patients to the postoperative results. The second chapter was written by Prof. I. Barraquer of Spain, and consists of a detailed account of his phaco-eresis intracapsular method. Chapter three is a description of the intracapsular operation as performed by Dr. H. T. Holland of India, who has trained many of our American cataract surgeons.

In the fifth chapter, Fisher describes the technic of Dr. Arnold H. Knapp's intracapsular operation. Chapter eight, written by Dr. A. Van Lint of Belgium, is a description of his technic. Lastly, Dr. Oscar B. Nugent presents a chapter on the fitting of correct lenses following the removal of cataracts.

This book contains, in a condensed form, the experiences of the accepted outstanding cataract surgeons of today.

C.C.J.

SEX LIFE IN MARRIAGE

By Oliver M. Butterfield, M.A., former staff member, Teachers College, Columbia University. Emerson Books, Inc., 251 West 19th St., New York, N. Y., 1937. Price, \$2.00.

This book is the outgrowth of a pamphlet entitled, Marriage and Sexual Harmony, previously reviewed and commended in the Iowa State Medical Journal. The author is consultant in marriage problems for the Family Guidance Service in New York City and in years of service as a counselor in marriage problems has felt the necessity for a book containing proper instruction in the sexual aspects of marriage.

The content is more than a treatise on proper sexual relations. It is rather a discussion of happy marriage relationships including the social, the psychologic and the physical aspects. It is clearly presented in a very readable style with the omission of the superfluous adjectives which characterize most books of this kind.

The physician who is looking for an authoritative and well written book to place in the hands of young married people will find this small volume well suited for the purpose.

D.H.K.

THE INTIMATE SIDE OF A WOMAN'S LIFE

By Leona W. Chalmers. Pioneer Publications, Inc., Radio City, New York, 1937. Price, \$1.50.

This is a book written by a lay woman for women. It deals with the personal care and cleanliness of the body, especially the genital organs, and is well written and easily understood. The technic of the various cleansing procedures is well described and illustrated. It is a good book of its kind. However, it places too much emphasis on douching and not enough on the cleansing of the external genitalia.

A.D.J.

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Number 9

THE PREVENTION AND TREATMENT OF SEVERE DISTURBANCES IN WATER AND ELECTROLYTE BALANCE*

ALEXIS F. HARTMANN, M.D., St. Louis, Missouri.

As some of you perhaps know, we have been interested for a number of years in dehydration in edema and the chemical changes which sometimes accompany such changes in water balance. I think we have made some progress with certain of these changes and I would like to explain to you today what we have designated as a routine treatment for severe acidosis associated with dehydration.

About two-thirds of our body consists of water in these different compartments. The largest is the intracellular fluid compartment, the cells of the

intercellular compartment, and by dehydration, a shrinkage of it. By anhydremia, we mean shrinking of the vascular fluid itself. When dehydration and anhydremia occur, these water changes are almost always associated with chemical changes. Sometimes these chemical changes are so severe that even though they are secondary symptoms of the underlying disease, they may become fatal. We have to recognize them and treat them promptly if we are going to give the patient a chance to recover from his initial trouble. We can follow these changes in the various fluid compartments by sampling the blood and studying particularly the mineral contents of the blood and the contents of such non-electrolyte substances as dextrose and urea.

Figure 2 illustrates the typical "patterns" found under different conditions. On the extreme left is a picture of normal blood serum. The unit of measurement is one which was selected so that both electrolyte and non-electrolyte substances could be recorded and measured by the same unit of measurement, which is the osmolar millimol. Notice the measure of the total salt or electrolyte content of the serum, which is chiefly chloride bound to base, but also includes bicarbonate, protein, phosphate, lactate, and some residuum, all fully neutralized. Chief among the non-electrolyte substances are dextrose and urea and a little bit of undetermined substance which we call mol-rest; the dotted line at the top indicates the total osmotic pressure as determined by the freezing point. In diseases such as severe nonspecific diarrhea, acute bacillary dysentery, diabetic coma, acute hemorrhagic nephritis, chronic renal insufficiency, and acute severe infection, we have a pattern which, while it varies, tends in one direction in that the bicarbonate content is always reduced. By definition, then, we speak of such changes as changes of acidosis of the metabolic type. Associated with vomiting due to pyloric stenosis or intestinal obstruction or some other cause, we again have a fairly characteristic pattern, distinguished by a great reduction of chloride and an increase in

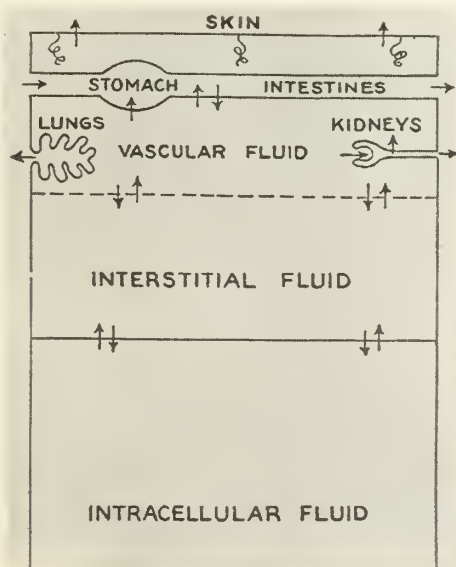


Fig. 1.

body; the next largest is the intercellular fluid compartment, and then there is the vascular fluid itself (Figure 1). By edema we mean the swelling of the

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

bicarbonate or, by definition, alkalosis of the metabolic type. Occasionally, particularly with severe infections, we can have tendencies working in both directions, acidosis on one side, alkalosis on the other side; the result being neither type, but is still a great variation in pattern from the normal picture. It is particularly this type of case designated as severe acidosis that I would like to talk about.

We think the following schedule is a satisfactory, routine treatment, and one which needs little, if any, assistance from the laboratory for its success provided the diagnosis is correct:

The treatment consists, first, of the administration of one-tenth of the body weight or 100 cubic centimeters per kilogram of body weight of a mixture of isotonic sodium r-lactate which is one-sixth molar, and isotonic or slightly hypotonic Ringer's solution in the proportions of 60 to 40. For simplicity, we can call that a fortified lactate-Ringer's solution because it has more lactate and less Ringer's in it than the original lactate-Ringer's solution which we used for milder degrees of acidosis or mild degrees of alkalosis. In the event that the acidotic subject is also diabetic, we include sufficient insulin in the treatment to abolish ketosis

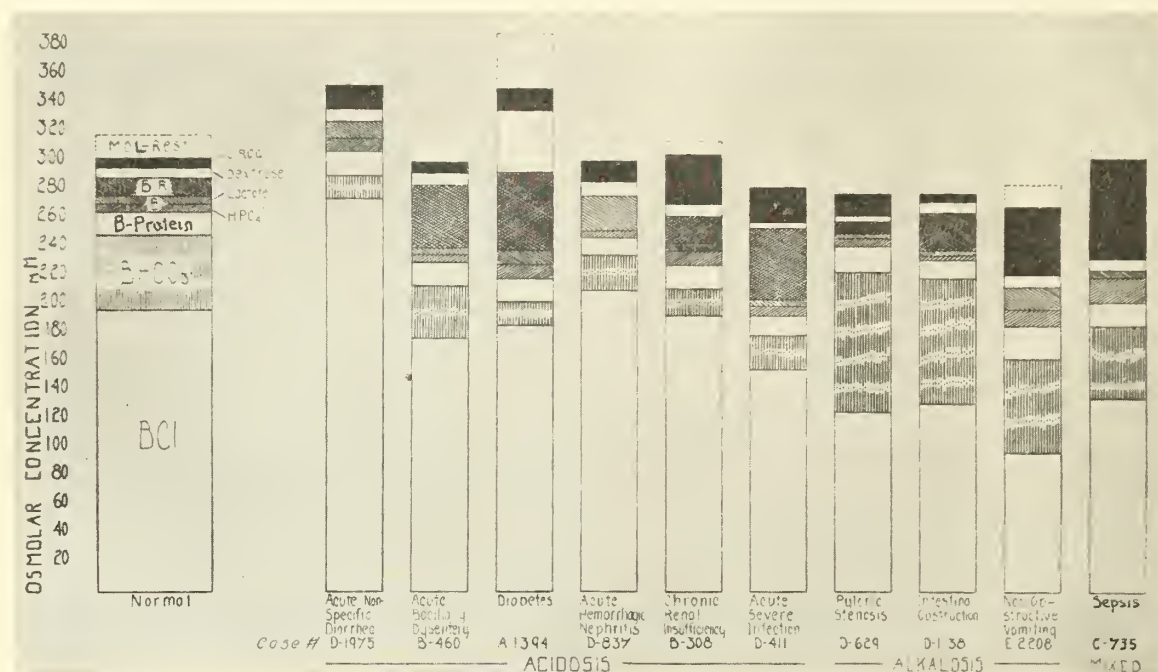


Fig. 2.

ROUTINE TREATMENT OF SEVERE ACIDOSIS

- I. 60 c.c. of 1/6 molar sodium r-lactate per kilogram of body weight.
40 c.c. of Ringer's solution per kilogram of body weight.
- 100 c.c. of "fortified" lactate-Ringer's solution per kilogram of body weight. (Administered intravenously, intraperitoneally or subcutaneously.)
(Insulin, two units per kilogram of body weight, is included in this treatment, to be given subcutaneously, in the event of diabetic acidosis.)
- II. 20 c.c. of citrated whole blood per kilogram of body weight given intravenously.

and hyperglycemia. This amount will usually average about two units per kilogram of body weight and has to be repeated, roughly every six hours, in doses of one-half to one unit per kilogram. In certain cases we follow this treatment with blood transfusions for a very definite reason.

Such a routine appears very simple, but in reality it is not so simple. When dehydration and acidosis have occurred, there has been loss of water from the blood and body fluid compartments. There is often loss of fixed base from the body fluids. There is reduction in the bicarbonate value and increase of the hydrogen ion concentration. That is the definition of acidosis; there is often diminution in chloride; sometimes there is ketosis, and sometimes hyperglycemia. Satisfactory treatment should be able to correct all these possible changes in a short

time. Let us see whether it does. First, we are returning considerable fluid or water to the body, when we give a tenth of the body weight in water. That usually is adequate to supply lost water. The lactate effect is threefold. Its primary effect is to restore promptly, and independently of renal activity, the reduced hydrogen ion concentration and the bicarbonate values of the body fluids. That is, after being metabolized, the sodium lactate is converted into sodium bicarbonate. In its metabolism, it passes through the stage either of liver glycogen or is oxidized in the tissues, so that it becomes an anti-ketogenic substance, and also adds to the reduced carbohydrate stores in the liver. The effect of the Ringer's solution is particularly to supply lost chloride and the "fixed" bases, sodium, potassium, calcium and magnesium. The effect of the insulin, of course, is to permit carbohydrate utilization in the diabetic patient, and the effect of the blood is primarily to restore the colloidal osmotic pressure of the plasma if it happens to be reduced, and to prevent in that way a low protein type of edema from developing which might otherwise interfere with renal activity and the formation of urine, which is necessary for the complete correction of the electrolyte changes.

Let us look into the effect of lactate a little more closely. (Figure 3.) If we take a normal

and falls promptly by diffusion and by its metabolism, so that it is back to normal in from one to two hours after injection. During this period of time there is an increase in oxygen consumption of about this degree. There is a fall in the hydrogen ion concentration from the normal value to one in the zone of alkalosis, in the normal individual, accompanied by a rise in the base bicarbonate content of the blood. There is very rapid excretion of alkali out into the urine, which becomes extremely alkaline, carbon dioxide contents of 600 volumes per cent sometimes being reached, which represents the excretion of sodium bicarbonate at the rate of about 20 grams per liter. There is some loss of lactate in the urine in the normal subject, around thirteen per cent, a slight rise in blood dextrose, and a slight dilution of the plasma.

Similar changes occur in children. Since a part of the metabolism of the racemic lactate concerns liver function, one of the isomers apparently being

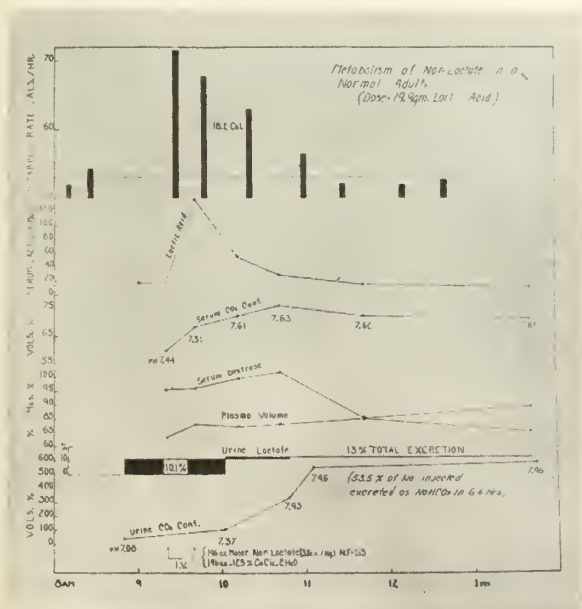


Fig 3.

subject and inject over a period of one-half hour, about three and one-half cubic centimeters of a molar solution of sodium lactate per kilogram of body weight, we note that these changes occur: the lactate of the blood rises to a very great height,

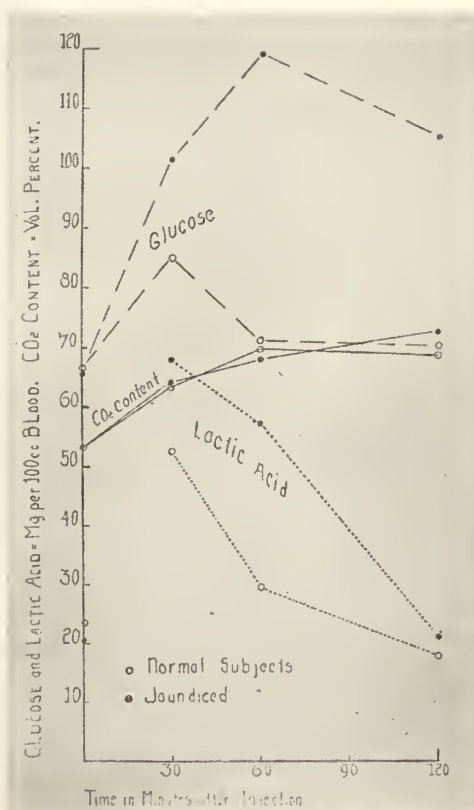


Fig 4.

converted quantitatively into liver glycogen, we become interested in the metabolism of lactate during periods of liver damage. Figure 4 presents some instances of mild liver damage, the type we find associated with the clinical condition of acute catarrhal jaundice, which is not uncommon in

children. Notice that the peak of the bicarbonate rise is delayed one hour, that the return of lactic acid to normal is delayed one hour, and that the blood sugar rises to a higher level than it does normally, so that with mild liver damage we may expect about one hour's delay.

What about more severe liver damage? Figure 5 illustrates two extremely severe cases of liver damage. In one child there were the symptoms of obstructive jaundice of six months' duration. This particular test of liver function by injection of lactate was made the day before laparotomy was

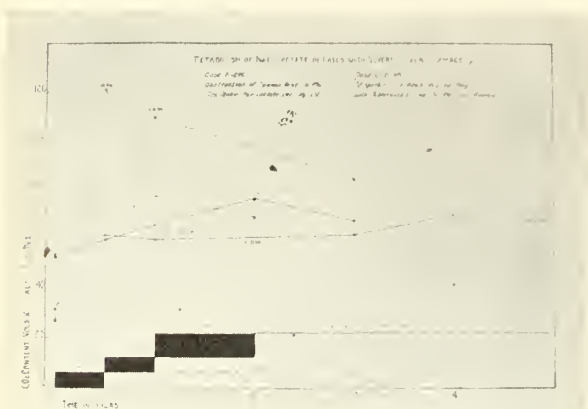


Fig. 5.

done and a biopsy of the liver secured. One can see a considerable delay in the fall of lactic acid. This is as far, however, as we followed lactic acid; there was also perhaps a two-hour delay in the rise of bicarbonate. We will show you the picture of this liver in just a minute. In the other case we also had clinical findings of extreme liver injury, with about a three-hour delay in the fall of lactic acid and a three-hour delay in the rise of bicarbonate. The first child had some aberrant pancreas in the duodenum obstructing the common duct, and the attempt to relieve the obstruction was unsuccessful. Peritonitis followed, and death occurred from that infection. The other case also terminated fatally, and we can conclude, I think, quite truthfully that even in the presence of very severe liver damage the metabolism of lactate is only delayed for a matter of a few hours' time.

In regard to some of the different types of acidosis, I would like to mention one of our patients, a child with moderately severe nephritis of the glomerular type in the nephrotic stage. Last fall the urea clearance, standard value, was 67 per cent of normal. Early this spring it had dropped to 42 per cent. During the course of an infection treated with sulfanamide administration, the child developed acidosis. Acidosis had previously oc-

curred during a period of acute infection associated with fever, vomiting, diarrhea and oliguria. At the time the acidosis developed, we noted that the carbon dioxide content was 21 volumes per cent. The routine treatment was given, and the carbon dioxide content rose to 55.8 volumes per cent, which was 6.6 volumes per cent underneath the expected rise. A recurrence of the acidosis followed, and we tried individually the effects of dextrose and also Ringer's solution, but these measures were ineffective. Dextrose alone, in equivalent quantities, caused only three volumes per cent rise, and Ringer's solution about five volumes per cent rise. The reason for their failures, of course, is apparent. This type of acidosis is not due to ketosis. Dextrose would not be expected to have much effect, and the degree of renal insufficiency is enough to prevent a very satisfactory excretion of ammonium chloride into the urine following the administration of Ringer's solution. When we gave the child more sodium lactate we again noted the theoretical rise following the injection.

In going over all of our results, we note fifteen cases of very severe nephritic acidosis treated in this fashion, with follow-up data, and many more cases without follow-up data. Fourteen of the fifteen had satisfactory relief of the acidosis comparable to the changes in this child. I might define again just what we mean by a satisfactory relief of the acidosis. We mean a rise of the observed carbon dioxide content within twelve hours, either to a normal value or one which is in the zone of only mild acidosis. Wherever it is in the beginning, we expect it to rise to at least 35 volumes per cent in twelve hours. On that basis we had one failure out of fifteen. The cause of such nephritic acidosis is as follows: due to renal failure, acids like phosphate and sulphate accumulate, and due to renal insufficiency, the ability to excrete ammonium chloride also diminishes. These are essentially slow processes. The acidosis is slow in developing and does not tend to recur rapidly when it is once corrected. Therefore, of all the types we see it is the simplest in origin and perhaps the easiest to treat.

Let us now turn to a different type of acidosis, one with which you are more familiar, the diabetic type. Here we have a number of pathogenic factors. We have a ketosis primarily as the cause of the acidosis, but the degree of ketosis varies tremendously. In some patients the circulating ketone bodies are more than sufficient to account for the reduced alkali reserve. In some instances the ketone bodies are much less concentrated, and when they disappear they yield back base to the body which is insufficient to restore the bicarbonate

reduction. It is sometimes difficult to know the degree of ketosis present, because the quantitative methods for determining ketone bodies in the blood are not quick or simple. In addition to ketosis there is sometimes a temporary renal failure which allows other acids to accumulate, preventing the excretion of ammonium chloride in the urine. Occasionally we find circulatory failure due largely to anhydremia which permits lactic acid particularly to accumulate. In fifty-two examples of severe diabetic acidosis treated by this method, all but one were relieved within twelve hours; only one was overtreated, and developed alkalosis. Fifty of them were quite satisfactory.

If we compare the results of treatment of severe diabetic acidosis by this method with results by other methods, we have the three interesting curves illustrated in Figure 6. The usual method of treating severe diabetic acidosis with only in-

could expect the carbon dioxide content to be around 20 or 21 volumes per cent, and severe acidosis would still be present.

If we vary this treatment by administering one-half gram of sodium bicarbonate per kilogram of body weight, we will have the rate of recovery indicated by the second line on the graph; and if we use our routine lactate-Ringer's solution treatment we have the rate indicated by the third line. We accomplish as much in two hours with the lactate-Ringer's treatment as we accomplish in eight hours, as far as speed of recovery is concerned, without the use of any alkali.

Objections have been raised to alkali treatment of diabetic acidosis and other types, too, on the grounds that it is dangerous because it might lead to alkalosis. That is true if one does not use the treatment correctly, but the correct usage is included in the schedule referred to earlier. In our series of cases only one out of fifty-two patients developed alkalosis, and that was due to our own fault; we did not include Ringer's solution with the lactate and insulin administration.

When chloride deficiency results from any cause whatsoever, it is almost always accompanied by reduction in total base. This is the "pattern" of loss of gastric juice. This process is present in diabetic individuals who develop dehydration and acidosis, too; but the change is masked. If we do not give any salt solution, we may not restore the total base level to normal, and if this is not done, excess of alkali resulting from insulin administration and the abolition of ketosis and from lactate

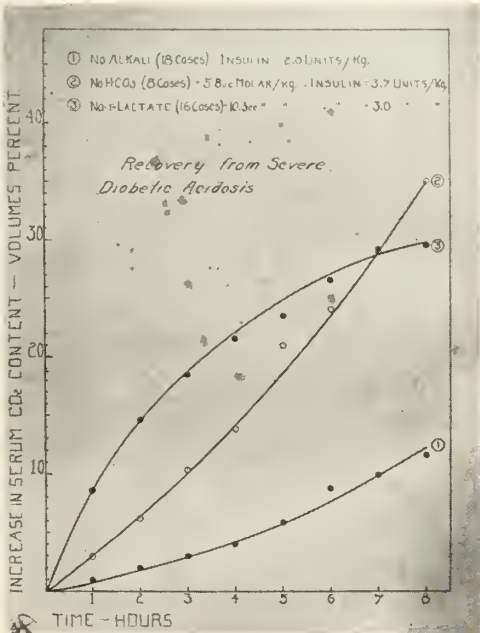


Fig. 6.

sulin, salt solution and dextrose yields the following result: One can expect an increase in carbon dioxide content of the blood (recovery from acidosis) to take place at a rate of about one volume per cent per hour for the first four hours, after which it accelerates slightly so that eight hours after the beginning of treatment one can expect a rise of ten to eleven volumes per cent. If this afternoon at 3:20 we had a child or adult with a carbon dioxide content of ten, and were to give a large dose of insulin, a large quantity of saline solution subcutaneously, and perhaps some dextrose intravenously, at eleven o'clock tonight we

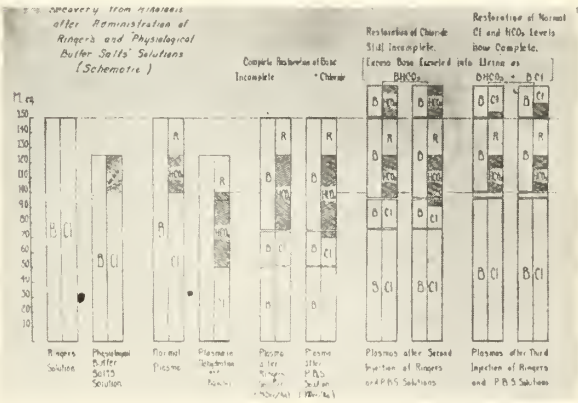


Fig. 7.

metabolism will tend to remain. If we restore the total base level with salt, these changes occur (Figure 7): first, the salt is retained until the total base level has been reestablished; and second, further administration of salt solution causes the excretion of excess base bound to the bicarbonate. Thus, the reason for the development of alkalosis

when alkali is used in the treatment of acidosis, is the failure to restore the total base concentration by giving salt. There is one more pitfall. Suppose we gave the treatment as we outlined, but failed to give blood. Sometimes, after the anhydremia is corrected and the blood volume is restored to normal, the plasma protein content drops so low that edema results and renal activity ceases. When this occurs there can be no excretion of excess alkali in the urine, and alkalosis may result for that reason. In addition, then, to the Ringer's solution, especially in malnourished individuals in whom there may be some protein deficiency in the blood, it is wise to give blood after the fluid administration.

I have some figures on two other important groups of acidotic patients. In acute diarrheas we have 44 cases with good follow-up data, with 42 successfully relieved of acidosis, according to our definition. We have 86 more without follow-up data but with clinical recovery. With severe infection, we have about fifteen, with the same percentage of successful treatment.

In this whole mass of material there are seven instances in which we had apparent failures. In one instance (Figure 8), a case of very severe salicylate poisoning, the effect of lactate was much less than expected. The carbon dioxide content rose from 18 to 27, when it dropped. We followed the lactate administration with a dose of sodium bicarbonate, which brought it from 26 to 44, when we calculated it should go to 60. The reason for the partial failure of the lactate and bicarbonate therapy in this case was the extreme ketosis which continued and which caused a rate of acid formation at such a high level that the alkali effect was dissipated. It was not a failure at all; we should have given more potential alkali. Four other apparent failures can be explained on a somewhat similar basis. (See the accompanying table.) Two were diarrhea cases; one was diabetic; and the other nephritic. The first dose of lactate raised the

bicarbonate value only slightly. A second dose raised it to the theoretical level. The actual process is this: sometimes when the acidosis is extreme, in order to buffer up the falling bicarbonate level, certain of the buffer substances yield their base,

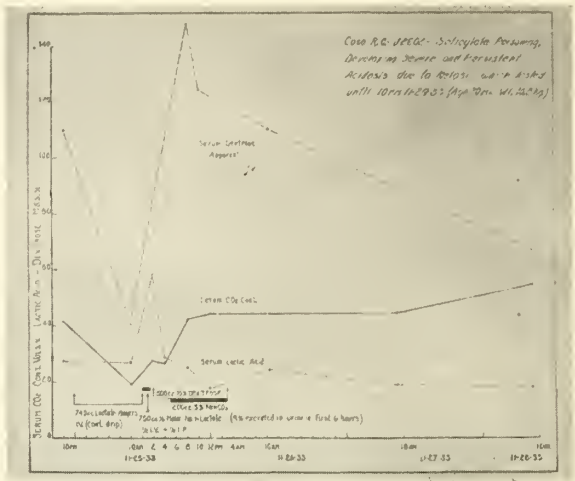


Fig. 8.

protein and phosphate particularly. When alkali is generated from sodium lactate the base released goes to supply the buffer substances before the bicarbonate can increase. Occasionally, then, it is necessary to give two doses, according to our routine method, but this necessity is extremely rare. It happened in only four instances out of about 150. In two of the seven cases of real failures, the bicarbonate content never did rise to the expected level, but in both instances the patient died within twenty-four hours of the treatment. They were moribund individuals, and during the moribund stage all things of a metabolic nature begin to fail.

In conclusion, I believe we can say that our simple routine methods will be successful except in extreme instances. I believe, however, that when

			Serum CO ₂ Content Volumes Per Cent				Molar Na-Lactate CC.KG.		
Cause of Acidosis	History No.	Age	Before	After (Hrs.)	Ex-pected	Differ-ence		Probable Explanation	
Starvation and dehydration (Premature)	M-246	15 days	16.5 30.5	30.5 (25) 52.0 (26)	54.3 62.1	—23.9 —10.1	10.0	Fixed base depletion?	
Diabetes	L-2531	6 years	9.7 19.1	19.1 (5) 52.8 (4½)	55.0 64.4	—35.9 —11.6	11.0 11.0		
Infection and renal insufficiency	L-2359	18 days	22.0 30.0	30.0 (19) 70.0 (34)	61.6 69.6	—31.6 + 0.8	12.0 12.0	Second dose of lactate in each instance gave better response than first.	
Renal insufficiency	N-487	5 months	9.0 25.0	25.0 (6) 50.0 (16)	41.0 57.0	—16.0 — 7.0	9.5 9.5		
Salicylate poisoning (ketosis)	J-2602	20 months	18.8 26.2	26.2 (4) 42.2 (3)	57.8 62.5	—31.6 —20.3	11.6 11.0 (NaHCO ₃)	Continued acid formation.	
Diarrhea (premature)	L-1554	14 days	12.9	30.1 (13)	42.7	—12.6	9.0	Moribund Died 15 hours later.	
Acute bacillary dysentery	M-1411	5 months	12.0	16.0 (11)	55.0	—39.0	12.8	Died 17 hours later.	
Diarrhea and infection	H-778	21 days	12.4	28.8 (20)	49.7	—20.9	10.7	Base depletion (?) plus cir- culatory failure.	

one is dealing with what appears to be a moribund case, an extremely dehydrated, acidotic baby, let us say, from diarrhea, one should return to the bicarbonate treatment to this extent; one should give $\frac{1}{2}$ gram per kilogram of body weight to force immediate alkali into the body of such patients, after which our routine treatment should prove satisfactory in relieving at least the acidosis.

PREVENTION AND TREATMENT OF WHOOING COUGH*

R. P. NOBLE, M. D., Cherokee

Whooping cough is given credit as standing at the top of the list of deaths from communicable diseases. About two per cent of all infected children die, but the mortality rate is fifteen per cent for infants with whooping cough. Because of its prevalence it causes more deaths than diphtheria, or than scarlet fever and measles combined. With 95 per cent of the deaths occurring in infants under three years of age, methods for prevention and treatment for this age group are especially important. Consequently there has been much literature written upon the subject in the last decade.

The prophylactic treatment of whooping cough for the unexposed child is best given as some form of antigen. It is generally accepted that *Haemophilus pertussis* of Bordet and Gengou is the causative agent of whooping cough. Practically all effective antigens use this organism in the smooth type or phase I of Leslie and Gardner. Madsen¹ grew bacilli on a forty-eight hour blood agar medium and devitalized them by one per cent formaldehyde with a resulting vaccine which contained ten billion dead bacteria per cubic centimeter, and which was given in doses of five, seven, and ten billion bacilli at three to four day intervals.

Sauer^{2, 3, 4 and 5} has developed the best known prophylactic vaccine which differs from Madsen's in that it is produced from five to seven strongly hemolytic phase I strains taken from patients each two months. The culture medium contains freshly defibrinated human placental blood; devitalization is accomplished by 0.5 per cent phenol; and three weekly doses totaling 80 to 100 billion killed bacilli, instead of 22 billion, are given. If the vaccine is taken out of the office, it is kept cool in a thermos bottle and at all other times is properly refrigerated. Injections are made by means of a dry-heat sterilized syringe and needle just beneath the skin over the deltoids, biceps, and triceps respectively of each arm. A palpable nodule at the end of one to three weeks is desirable.

Frawley^{6, 7 and 8} used doses of four cubic centi-

meters each week for three weeks of Krueger's undenatured bacterial antigen (U.B.A.) which was made by growing phase I organisms on human blood enriched Bordet's medium, washed to remove all toxic filtrate, and then denatured in a ball mill and filtered through acetic collodion membranes to avoid the changes produced by heat or chemicals. Mishulow's^{9 and 10} vaccine was produced from stock cultures grown on sheep's blood agar. There was a better agglutinin response, but also a more marked reaction in the patient than with Sauer's vaccine because of the included toxic substance. Fifty to eighty billion bacilli should be used for prophylactic immunization. Intracutaneous vaccination with thirty to forty billion bacteria is more efficacious than much larger doses given intramuscularly, but individual intracutaneous doses should not exceed 0.3 of a cubic centimeter because necrosis occasionally occurs even with that dose. Kendrick¹⁴ used a vaccine grown on a medium enriched with sheep's blood with a dosage similar to Sauer's with 87 per cent protection as compared with 53 per cent in the controls.

Theoretically, a vaccine suitable for prevention should be effective in treatment and vice versa. Sauer, however, because of the slow rate at which immunity is built up, does not recommend his vaccine for treatment, but Frawley⁸ believes that Krueger's pertussis U.B.A. is of the greatest benefit when used during the incubation period. Slesinger,¹¹ by means of an acetone precipitation of the filtrate of *Haemophilus pertussis*, has developed an antigen containing the protein equivalent of 20 billion bacilli, but there are no reports on its efficacy in immunization. Sauer's⁴ figures when using the Evanston vaccine were as high as 100 per cent protection, and were 93 per cent with a number of series using the Evanston and commercial vaccines. With the exception of the high expense because of the use of human blood, Sauer's vaccine is an excellent prophylactic agent. Since three failures occurred when the immunization was given soon after attacks of measles even though infection took place some time afterward, and since knowledge regarding the ability of infants less than six months old to build antibodies is not definite, Sauer recommends that vaccines should not be given within four months of any other inoculation, and suggests an immunization schedule which includes pertussis immunization at eight months, diphtheria immunization at twelve months, smallpox vaccination at eighteen months, and scarlet fever immunization at four years of age. A variation of this program to permit the vaccination against smallpox prior to three months of age would give the required four-month interval and help reduce postvaccinal encephalitis as well

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as protect the individual against smallpox during the first year of life.

Because the larger doses have been used only since 1928, the length of time that artificial immunity for pertussis will exist, is not yet answered. The disease itself does not always produce permanent immunity. An intracutaneous test similar to the Schick test is being developed in an attempt to make more accurate and simple studies possible. As Frawley points out, there are strong possibilities that even as the acquired immunity wears off, repeated exposures will cause the individual to maintain immunity. Severe reactions to vaccine have been few. Madsen⁵ reports two deaths following injections, one of them in a newborn infant, and one in a premature infant, and Kugelmass¹² reports three allergic cases of purpura; two responded to blood transfusions, and one died of cerebral hemorrhage.

The next group to be considered includes those in the incubation period. Health department regulations require that all susceptible contacts be excluded from school for two weeks from the day of last contact unless they are under the daily inspection of a school nurse, health officer, or other physician. Because of the short time interval, the lack of knowledge regarding the antigenic response in very young infants, and the extremely high death rate from whooping cough during the first semester of life, other means of prevention have been sought for this age group. After using ten to twenty cubic centimeter intramuscular injections of whole blood taken from parents who have had whooping cough, or eight to ten cubic centimeters of convalescent serum collected from young adults in the eighth week of the disease preserved by 0.25 per cent cresol and used within three months, Bradford¹³ observed that either convalescent serum or whole immune blood possesses protective qualities against whooping cough when injected before the catarrhal symptoms appear. Kendrick¹⁴ used a hyperimmune serum in two ten cubic centimeter doses at ten day intervals in a limited number of cases with favorable results, and this method deserves further clinical trial. In older children antigens can also be used in the incubation period. Frawley⁸ believes that the greatest benefit from pertussis U.B.A. is obtained when the antigen is used in the incubation period in doses of two to five cubic centimeters for those less than one year of age, and five cubic centimeters daily for those over one year of age. Slesinger¹¹ gave his intranasal antigen prophylactically in only three exposed cases with two developing a mild form of the disease but with no whoop or emesis. The third case developed no

symptoms. Further clinical investigation will be needed to demonstrate its value.

The general hygiene of the patient during the attack plays an important part in handling the case. The febrile, feeble, or severely affected child should stay in bed; otherwise older children are best out of doors in fair weather. When they are inside, moist warm air is optimum. Cold drinks or draughts are to be avoided. A tight abdominal binder lessens the strain, and the patient's abdomen and head should be supported on one's hands in such a way that the latter is forward during the paroxysms. Small meals which include an adequate vitamin content, as furnished by cod liver oil and orange juice, and semi-solid and gelatinous foods, such as cereal, jellies, custards, junkets, gelatin, and broth thickened with sago or flour, should be given as nearly as possible after the spasmodic attacks. In babies, thickened feedings, one tablespoonful of farina to four ounces of liquid, are indicated. If vomiting occurs, the patient should be refeed. When asphyxial convulsions are encountered the tongue should be drawn out with rhythmic tractions at the rate of sixteen or twenty per minute by means of an anesthetist's tongue forceps. Steam inhalations ameliorate some paroxysms and at times the pushing forward of the lower jaw will cut short a spasm. Sublingual ulcers are painted with silver nitrate.

The treatment in the catarrhal stage is similar to that in the incubation period. Many patients are not treated until the whoop develops. The evidence for specific treatment at this time is conflicting, and symptomatic treatment does not shorten the course of the disease. In the past, sedatives such as thyme and bromides, and anti-spasmodics, such as atropine, have been used. Atropine in one to one thousand solution, made by adding one-half grain to one ounce of water, is given every four hours in a dose of one drop per year of age, and is increased until flushing occurs. Antipyrine, one of the most popular drugs, is prescribed every four hours in doses of one-half to one grain for each year of age up to five grains. Sodium bromide in solution may be used with it in double the amounts. One teaspoonful of a 0.5 per cent solution of sodium phenobarbital¹⁵ has been given three to six times daily regardless of the age with good response. A third of a teaspoonful of the solution would probably be adequate in infants. An exanthem occurred in nine per cent of the cases. Other barbiturates and basal anesthetics have been used. Gold tribromide is credited with neurosedative and antibacterial properties. The dosage, depending upon the age, the severity, and the number of paroxysms, is as a rule from one-twentieth to one-tenth grain three to four times

during the day and at midnight. The only untoward reaction reported by Epstein¹⁶ is drowsiness which is never as profound as with phenobarbital. Intramuscular ether has been employed but sloughs occur with this method. Ether-in-oil enemas do not have this disadvantage. Sauer says that the following procedures are better than vaccine; one tablespoonful of a 25 per cent solution of ether in olive oil, regardless of age, except in older children where two are used, instilled by means of a catheter into the rectum two or three times daily; rest in bed for one to two weeks; and avoidance of infections.

The principal endocrine preparation used in the treatment of the paroxysms of whooping cough is suprarenal extract. Barbour¹⁷ recommends one-half to one grain for infants, and one to two grains for children, at two to three hour intervals either early or late in the disease. Eighty per cent respond to the suprarenal extract alone. Cases which fail to respond to ether, sedatives, or hypnotics may respond to suprarenal extract. Untoward reactions are few; drowsiness occasionally occurs, but it is not severe; abdominal pain or constipation may result in some individuals. Where the symptoms are too prolonged, or vomiting, constipation, or abdominal pain is present, one-eighth to one-fourth grain of dessicated thyroid extract is also given every two to three hours. The latter should be watched to be sure that it does not aggravate the cough or cause a fever, a flushed skin, tachycardia, nervousness, or diarrhea. Those cases not responding to endocrine therapy are given in addition nonspecific protein or a vaccine, with equal results from either being noted by Barbour.

One of the most startling investigations in regard to whooping cough is that performed by Regan and Tolstoohev¹⁸ in their biochemical study which indicates that a lowered blood hydrogen ion concentration is present. Alkaline therapy is started by administering sodium bicarbonate in fifteen to thirty grain doses every three or four hours until the urine is alkalinized. Medication is then continued by the administration of powders containing five to ten grains of magnesium oxide with ten to fifteen grains of sodium bicarbonate, alternated with powders containing calcium carbonate with sodium bicarbonate in similar doses. Each powder is mixed with an equal amount of sugar and one dram of hot milk, and given alternately three times daily followed by a half cup of milk. In the case of excessive vomiting five per cent glucose and three per cent bicarbonate are given rectally. The chemical data submitted indicate an improvement of the acidosis. No clinical figures are given, but the changes in chemical values are reported as being accompanied by pronounced clinical improvement with rapid amelior-

ation of the symptoms. Vomiting ceases on an average in five days and whooping usually is not present after fourteen days. A few cases treated in the late catarrhal stage were aborted.

The results from the use of antigen in the paroxysmal stage are not definitely decided. Sedatives and other means of treatment complicate the study, and controls are often absent. Marble¹⁹ is one who reports favorably. After other means were not sufficiently effective, Sauer's vaccine in ten, twenty, and twenty-billion doses respectively on consecutive days gave very good results in a small series of cases. On the other hand, Begg and Coveney²⁰ in a larger and better controlled series using two, five, ten, fifteen, twenty, and twenty-five billion bacteria respectively at two to three day intervals obtained only an undesirable effect. As no deaths occurred in either the treated or control group, hospitalization was considered to be an important part of the treatment. Slesinger's¹¹ antigen, ten drops into each nostril daily or on every second day for four to twelve treatments, was very satisfactory in nearly half of twenty-four cases and showed slight or no improvement in one-fourth of the cases. Oxygen inhalations help control paroxysms and are especially useful in young children where cyanosis or dyspnea persists between paroxysms. The benefits from roentgen radiation have not yet been proved. Ultraviolet light has given uniformly successful results in Turner's²¹ hands. The entire body is exposed at a distance of thirty-six inches. The first radiation is from one-half to two minutes, both front and back, depending on the age, and later doses are increased one-half to one minute each day until the principal symptoms improve, after which time they are given twice a week for one or two weeks. Pigmentation is avoided.

During the stage of decline quinine has gained a reputation as being of benefit. One-fourth grain for a fifteen pound infant, or one-half grain for a two year-old, of euquinine may be given disguised in chocolate syrup four times daily for three days, then given in one-half the dose for three days, and repeated after several days of rest. A one to five hundred solution of quinine sulphate sprayed into the throat every three or four hours should tend to discourage a habit cough. If pulmonary symptoms persist, a tuberculin test should be given, which if positive should be followed by a radiogram of the chest.

In regard to complications, those of the lung are some of the most severe encountered and are treated as in any other pneumonia. Serum¹³ and ²² has been used with a lowering of the mortality rate. Hernias are restrained until the child recovers from the disease. Hemorrhages are treated locally

if necessary, or left alone if desirable, as in the case of the subconjunctival type. Otitis media is treated as usual by means of paracentesis of the drum. Tube feeding is to be resorted to when the nutrition of the child demands it.

From a review of the literature, if present claims prove to be accurate when studied further with adequate controls, the following would seem to be the optimum manner of handling the child with whooping cough. With the possible exception of allergic children, prophylactic vaccine, such as Sauer's should be given to all babies at the age of seven or eight months providing local epidemics of other diseases do not disturb the usual plan of immunization. Immune serum or blood should be administered to infants under six months of age if they have been exposed. Older exposed children, even if they are in the catarrhal stage, should receive U.B.A. and/or serum or blood. During the paroxysmal stage, the usual hygienic measures and sedatives, including ether, may be used. If vaccine therapy is employed, preferably before or after the peak of the disease, it should be understood that the evidence is both for and against its being effective. Endocrine therapy, alkalization, and the instillation of intranasal antigen, offer promise of being worthwhile adjuncts to treatment, but they will require much more substantiation before they will be on as sound a basis for treatment as prophylactic vaccine is for prevention, and even its use in clinical practice is regarded by O'Hara²³ as being in the experimental stage.

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Discussion

Dr. Peirce D. Knott, Sioux City: I would like to compliment Dr. Noble on his paper, and to mention two special measures in the treatment of whooping cough. Slesinger has reported twenty-four cases where he instilled intranasal antigen of ten billion organisms. He found that 45 per cent of the cases did show marked improvement in the whoop, 29 per cent presented moderate improvement, and about 25 per cent showed little or no improvement. Of course, the results with such a small series cannot be accepted as conclusive proof, but it would seem worthwhile to make further investigations with this antigen and with this method of introduction. The other method is that used by Toomis. He has recently called attention to an elaboration of material that is more of an exotoxin, entirely different from Krueger's endotoxin and Sauer's fresh organism. This exotoxin of Toomis is in the form of a mucous-like ball which is expectorated by the patient at the beginning and throughout the paroxysmal stage. Toomis likens it to the toxin of diphtheria and reports that in his ward he has been able, by injecting this immune-producing material which is obtained from the mucus, to lessen very definitely the number of paroxysms. Naturally this treatment also must be used in a tremendous number of cases before its place in whooping cough therapy can be properly evaluated.

Dr. Robert O. Hughes, Ottumwa: The essayist has covered the literature in a very commendable manner so that any additional remarks must necessarily be in the nature of personal opinion. Possibly the anxiety on the part of the lay public for a more successful means of immunization for whooping cough, and its advent in the past year or two, is the reason that parents in general are so solicitous. Even the added cost for immunization against this dreaded malady has not dampened the ardor of even those of poorer means.

I personally favor the use of Sauer's vaccine, and from what I have been able to gather from the literature, there seems to be a favorable trend toward larger dosages. With this in mind, I have been using doses larger by five cubic centimeters for each weekly dose, in the majority of cases. When the child is brought to the office for the first injection, and the parent seeks further reassurance as to the vaccine's efficacy, one is likely to work on the theory that if a little does some good, a larger dose may be better. I have felt that this procedure might aid one in living in a community more peaceably, if and when an epidemic occurs. It so happens that I am

sitting in that proverbial "hot spot" at the present writing, as we are now having an epidemic of considerable size in our locality, and to date the ordeal of treating a child with whooping cough, whom I had previously immunized, has not come to pass.

Again as the essayist has recommended, I have been using the antigen made after the method of Krueger in the treatment of diagnosed cases. Here again I am convinced that larger and closely grouped doses have a better effect upon the patient. As much care as possible is taken in the diagnosis of a suspected case before treatment is instituted. A careful history of exposure, with the clinical picture and the blood count at as early a date as possible, are all taken into consideration. The reason for this delay, if one would call it such, is this; if one is to give a child whooping cough vaccine for its prevention, it seems more advisable to use Sauer's preparation rather than the U.B.A. of Krueger, and in the event the respiratory symptoms turn out to be nonspecific for whooping cough, I feel one might be doing the patient an injustice by the hasty use of the least effective vaccine. That may be a small point to quibble about; however, results in treatment after the above method have been quite satisfactory to date. Many patients treated with Krueger's antigen (concentrated doses every day or every other day), are found following a temporary improvement in ten days to two weeks, to have a recurrence of symptoms, so that it has become routine to give a dose or two one week following the last dose in the concentrated series, and I believe the results justify the cost and effect.

In very young infants, or even in older children with severe whooping cough, I feel that the x-ray has a great deal to offer; fifty *r* units repeated in four days for two or three doses in children up to eight months of age; seventy-five *r* units repeated in four days for two or three doses in children from eight months to two years of age; and seventy-five *r* units in older children. The theory is that the improvement is probably due to a decrease in lymphocytosis or a decrease in the size of the tracheobronchial lymph glands.

DIARRHEAS*

JOHN C. PARSONS, M.D., Des Moines

Diarrhea may occur in adults in either an acute or chronic form. The acute forms are many times of short duration and minor significance, but may, in some cases, become very serious. The chronic forms are more likely to have an etiology of considerable importance and the cause of such a complaint should always be investigated. Many doctors have made the diagnosis of "intestinal flu" during the past few years. There is a possibility

that there may be such a disease, but probably the term should not be used until a definite syndrome can be established for its absolute recognition. No doubt many persons have accompanying diarrhea when they suffer from a "cold," but the reason for it is not known as yet. Many "intestinal flu" cases have, at a later date, been found to have cancer of the digestive tract, and the diagnosis of "intestinal flu" should not be given merely as a convenient synonym for diarrhea, because the physician is too lazy or too unsuspecting to inquire into the cause of the trouble.

It is certain, that even with the best of help in the way of diagnostic aids, an actual diagnosis can be made in less than half of the cases of diarrhea. Acute diarrhea may occur from many causes. Chief among the causes are infected food, or food in too large quantities, too coarse in texture, improperly prepared, insufficiently masticated or too extreme in temperature. Intoxication from various agents may also be the cause of an acute disturbance. Among these etiologic agents are listed the cathartics, including jalap, podophyllin and senna, the mineral acids and the metallic poisons, such as mercury, arsenic and phosphorus. Acute infectious diseases are often accompanied by acute diarrhea. Typhoid and cholera are well known, but measles, influenza and pneumonia may also be found to be the causative agent. Among one of the most important causes of acute diarrhea is emotional and nervous instability. We are all familiar with the student who develops a "running bowel" just before examination in college. Emotional upsets of various types in older patients have often been the cause of similar disturbances. The history of such upsets should be sought by questioning whenever a physician is confronted by this particular recurring acute type of diarrhea. Allergy is being suspected more and more at present, but its rôle as an agent in causing acute diarrhea may be very difficult to prove. Undoubtedly many people are sensitive to types of food or ingested materials which cause a disturbance of the bowel without any of the other usual symptoms of allergic reaction. These cases are difficult to diagnose, however, as the investigation is likely to be very tedious and at times the findings are somewhat controversial. Other less common causes may be those associated with adrenal disease, pellagra, pancreatic disease and sprue.

The cause of chronic diarrhea may also be difficult to find. Cabot attempted to find the cause of diarrhea in a series of cases collected between the years of 1905 and 1912 in the Massachusetts General Hospital. He excluded cases of typhoid and bacillary dysentery; 640 cases were included in the final series.

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

RELATIVE FREQUENCY OF THE COMMON CAUSES OF
DIARRHEA IN THE ADULT

	Cause Unknown	Cause Known	TOTAL
Acute enteritis	253	33	286
Chronic enteritis	147	11	158
Cancer of bowel		52	52
Pernicious anemia		34	34
Mucous colitis		32	32
Exophthalmic goiter		25	25
Nervous diarrhea		17	25
Tuberculosis of bowel		15	15
Amebic dysentery		14	14
Fat intolerance		7	7
Total			640

Enteritis is a rather unsatisfactory diagnosis to make because it is usually a "guess diagnosis." Lesions of the small bowel are notoriously difficult to find except at necropsy. One has only to think of the widespread ulceration found in typhoid or occasionally in chronic enterocolitis, in which very few symptoms may be referable to the digestive tract, in order to realize that all small bowel lesions may not produce subjective disturbances, to say nothing of objective signs. Of course we may believe that our knowledge is increased of late years over that extant at the time of Cabot's series of patients in 1912. However, Brown reported a series of 100 cases in 1931 in which the diagnosis was indeterminate, and he concluded that in approximately two-thirds of all the cases of diarrhea a real cause could not be found. In most cases of diarrhea the patient is only too willing to ascribe the cause to the old proverbial, "It must have been something I ate." Such a history is rarely of value, but nevertheless is a subject concerning which inquiry should be made.

Cabot states that passive congestion of the intestinal mucosa is rarely a cause of diarrhea. Only eight out of 88 patients with cardiac decompensation had any diarrhea at any time. In seven other cases of cardiac failure, signs of severe enteritis were found at autopsy but only one had had diarrhea. In thirteen patients with chronic nephritis who died with congestion of all organs, only one had had diarrhea. At Bellevue Hospital, in 100 cases of tuberculosis studied at autopsy, in which tuberculous enterocolitis was found, only 29 had a history of diarrhea. Conversely in 160 cases of tuberculosis in which 14 per cent had suffered from diarrhea not one was found with lesions of the bowel. In carcinoma of the intestine, 32 per cent of patients at Massachusetts General Hospital and 20 per cent at Bellevue suffered from diarrhea. Cabot did not find diarrhea any more prevalent in cases involving the lower part of the colon than in those involving the upper part.

In questioning a patient it is always well to be certain of what a patient means by diarrhea. It

may be found that he thinks one rather watery stool a day fulfills the requirements for the term, while another may be having twenty stools a day. Sometimes diarrhea is found to be alternating with constipation and may be due to impacted feces. While one usually asks if the patient has been in the tropics, actually infestation with parasites, especially amebae, may take place at almost any locality in our country. Diarrhea in the mornings is often due to lack of hydrochloric acid in the gastric juice, while that which awakens a patient at night is more likely to be an ulcerative condition of the bowel. Functional or nervous diarrheas are very unlikely to disturb sleep. Tenesmus and urgency usually are present in severe inflammations of the rectal mucosa. Looseness of the bowels at the time of menstruation is apparently a physiologic phenomenon in many women. In women with ulcerative lesions, diarrhea is likely to be worse when they are menstruating. Occasionally diarrhea is found to be due to short circuiting operations of the bowel, such as gastro-enterostomy with a following jejunitis or ileosigmoidostomy.

A complete history should be taken, including the patient's description of the number and size of the stools, the presence of blood, pus, or mucus, color, consistency, odor and presence of undigested food. After taking the history and making a complete physical examination, an examination of the stool, followed by a proctoscopic and sigmoidoscopic examination and then a barium enema fluoroscopy and radiography should be done. Most of the serious diseases, such as cancer, ulcerative colitis, amebiasis, polyposis, tuberculosis and diverticulitis will be recognized by such a procedure.

However, in a large group of cases the cause will still be undetermined. Felsen believes that the distal or regional ileitis of Crohn and the so-called nonspecific ulcerative colitis are probably chronic stages of bacillary dysentery. In a follow-up study of cases of bacillary dysentery he has observed that many of these cases develop ulcerative lesions in the colon several years later, with symptoms which cannot be differentiated from those occurring in chronic nonspecific ulcerative colitis. Bargen has felt that the diplostreptococcus associated with some of these cases is the specific cause. There have been many careful workers who believe otherwise. Amebiasis is endemic in practically all parts of this country. Usually a bloody diarrhea is associated with the disease, but in many cases constipation is found and the diagnosis may be difficult. Scrapings from the ulcerated bowel are examined for amebae under the microscope on a warm stage, and in many cases examination is made of the fresh warm stool. In those cases in which

diarrhea is not present, ulcers of the cecum and ascending colon may occasionally be discovered by fluoroscopy and radiography.

Any diarrhea which occurs in a tuberculous patient should be regarded with suspicion. In many cases tubercle bacilli can be recovered from the stool, but this does not mean that the case is necessarily one of tuberculous enteritis. However, if characteristic lesions of the terminal ileum and cecum can be demonstrated with the x-ray, the diagnosis is complete.

Diverticulitis may or may not create a diarrhea. Many cases of diverticulosis are without symptoms, and may be found only as an incidental discovery during a routine gastro-intestinal x-ray series. The acute infection of a diverticulum causes symptoms, and may be somewhat difficult to diagnose preoperatively.

Polyposis of the colon is an interesting condition, in that it may produce a bloody diarrhea at times. It is also interesting because of its tendency to occur in families, and because of its tendency to malignant degeneration.

Any adult patient who complains of rectal tenesmus with diarrhea and possibly slight bleeding must be suspected of having a malignancy. A simple insertion of the gloved finger will disclose rectal carcinoma in some of these cases. This type of rectal examination should not remain forever the "privilege of the consultant." Early removal of these lesions is practically the only hope of cure in such cases. The physician should not sit in his armchair and make a snap diagnosis of hemorrhoids, prescribing suppositories on the mistaken assumption that all rectal bleeding is due to hemorrhoids.

1223 Bankers Trust Building.

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Discussion

Dr. Julian E. McFarland, Leon: The most impressive thing that strikes us on hearing Dr. Parsons' excellent paper is the tremendous number of things that will cause diarrhea. That fact in itself should impress upon us that diarrhea is not a disease but a symptom of innumerable diseases. These diseases may be of any degree of importance, from almost none, up to very grave importance indeed. The

evaluation of this fact is a problem. It always helps me, in trying to figure out anything of that kind, to have some sort of a pigeon-holing system into which I can classify diarrheas or any other symptoms. I think the human mind is so constructed that it works better on a pigeon-hole basis. We do not understand continuous flows of things nearly as well as we do segregated compartments for our ideas. For that reason, I have tried to classify diarrheas on a more or less physiologic basis. Even at best, it is a complex problem, but there are only a few conceivable causes of diarrhea.

If we define diarrhea as overactivity of the enteric duct, overstimulation of the musculature is by far and away the most important cause. A second cause would be the absence of some inhibitory factor, and we know very little about that. As to the rôle of the endocrines in the stimulation of the musculature of the bowel, we know that the pressor factor of the pituitary secretion does stimulate the bowel, but we do not know how much the absence of this factor might affect diarrhea. I want to call especial attention to achlorhydria as a cause for diarrhea. Whether that is due to failure of some inhibitory factor of the hydrochloric acids, or merely due to failure of protein digestion and consequent carrying over into the bowel of materials which should be taken care of higher up, I do not know.

Overstimulation of the musculature, then, is the main cause of diarrhea. Again, I can think of three different ways to classify that. The first is intra-enteric overstimulation, in which a foreign irritant of any kind may be within the bowel. This is the most common type of overstimulation and usually the least important, since the bowel soon rids itself of the interloper, whatever it is, and the condition clears up. The second is a transenteric overstimulation, or disorder of the bowel wall itself. This type is encountered in carcinoma, ulcerative colitis, typhoid fever, and many other conditions which Dr. Parsons has already mentioned. This is often the most serious form of diarrhea with which we have to contend. The third classification is the extra-enteric or overstimulation of the autonomic nervous system. This may be emotional, as Dr. Parsons brought out, or it may be toxic. Ordinarily, it is not serious in itself, although it may be part of a much more serious syndrome of one kind or another.

It would seem to me that an attempt to pigeon-hole the individual cases of diarrhea into one of these groups might lead to more successful diagnostic, prognostic and therapeutic measures.

Dr. Albert A. Schultz, Fort Dodge: Dr. Parsons has brought out very clearly the fact that diarrhea, particularly chronic diarrhea, demands detailed study. Snapshot diagnosis and purely symptomatic treatment have no place in the management of this condition, because delay in diagnosis is very serious at times and prevents properly directed treatment. I believe when one is confronted with a case of diarrhea, particularly the chronic type, one should have some definite line of procedure in mind, pref-

erably a satisfactory clinical classification. This is important because the diagnosis in most cases has to be made by exclusion.

The first thing, obviously, to decide is whether one is dealing with an organic or functional diarrhea. Nervous diarrhea is undoubtedly the most common functional type and accounts for a large percentage of the cases we see in the office. I believe that a more suitable name for this type is colonic instability, and the most unfortunate name is colitis. Many nervous women become very much alarmed and their chronic worry is increased when they are told that they have colitis, so I prefer simply to say, "Your colon is unstable as a result of nervousness." Dr. John Cantor of New York City recently analyzed 417 cases of diarrhea and found 324 with functional diarrhea, of which 210 were due to colonic instability. The gas-trogenous type has been mentioned, and I think it is more common than many of us realize, and it is not always due to simple achylia. The patient with a delayed emptying time of the stomach also not infrequently has a diarrhea. Other functional types are less common but deserve consideration, particularly the endocrine putrefactive, fermentative, pancreatic and allergic types. I believe there are more cases of allergic diarrhea than we know about, and a well-directed observation, by means of elimination diets, occasionally will solve a puzzling problem.

The diagnosis of functional diarrhea, particularly the nervous type, is not difficult if one first takes a good history, which in my opinion is the most important part of any examination; second, makes a thorough physical examination, and third, at least inspects the stools. When I say inspect the stools, I mean that this should be done by the physician and not the patient. Stools resulting from organic disease will usually show blood or pus, while in the nervous cases mucus predominates and rarely is pus or blood seen. Simple laboratory tests, such as the blood count, analysis of the stomach contents and blood sedimentation rate, are always helpful. I consider the sedimentation rate a valuable aid because usually in functional diarrhea, and practically always in nervous diarrhea, the rate is normal, while the serious organic forms will show a marked increase in the blood sedimentation rate. If functional types of diarrhea have been excluded, one must bear in mind the important organic causes of diarrhea, such as idiopathic ulcerative colitis, carcinoma, tuberculosis, amebic dysentery, bacillary dysentery, and such rarer causes as regional ileitis, rectal stricture, and *Guardia* infestation. I have seen a number of cases of chronic diarrhea resulting from *Guardia* infestation, and while there are opinions to the contrary, I am convinced that the *Guardia* organism is pathogenic to some people and deserves recognition.

In regard to carcinoma (and I say this because of some sad and embarrassing experiences in the past), I think it is exceedingly good practice in an adult, who has a diarrhea of two months' or more duration, to say to yourself, "This is a cancer," and then prove

it is not, because it is certain that carcinoma of the intestinal tract is not being diagnosed early enough. Three procedures are necessary, and the first one, as Dr. Parsons mentioned, is a rectal examination. Unfortunately, it is still a fact that carcinomata of the rectum are being diagnosed as hemorrhoids, when a simple examination with the index finger will make the correct diagnosis. X-rays of the intestinal tract should, of course, be made and may prove to be valuable in the diagnosis, but a negative x-ray diagnosis does not always eliminate carcinoma. Expert roentgenologists sometimes miss carcinoma of the sigmoid. Therefore, sigmoidoscopic examination is frequently necessary, and if the amateur with the sigmoidoscope is in doubt, the patient should be referred to an expert.

If cancer is excluded one can be more deliberate and take sufficient time for a complete examination of the stools for parasites, dysentery organisms and other types of bacteria. I believe that amebic dysentery is more common than we are wont to believe, particularly since the Chicago epidemic, and when one is dealing with a case of dysentery where the etiology cannot be discovered, I believe he is warranted in giving the patient a course of emetine. Once in a great while the result will be an agreeable surprise.

INTERNATIONAL MEDICAL ASSEMBLY

The International Assembly of the Inter-State Postgraduate Medical Association of North America, under the presidency of Dr. John F. Erdmann of New York, will be held in the new public auditorium of St. Louis, Missouri, October 18, 19, 20, 21 and 22, with pre-assembly clinics on Saturday, October 16, and post-assembly clinics, Saturday, October 23, in the hospitals of St. Louis.

The aim of the program committee, with Dr. George Crile as chairman, is to provide an intensive postgraduate course for the medical profession of North America covering the various branches of medical science. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selection of the contributors and the subjects of their contributions. The St. Louis Medical Society will be host to the assembly and has arranged an excellent list of committees who will function throughout the assembly.

A tentative list of the distinguished teachers and clinicians who will take part on the program may be found on page xi of the advertising section of this JOURNAL. A most hearty invitation is extended to all members of the profession who are in good standing in their state or provincial societies to be present. A registration fee of \$5.00 will admit each member to all the scientific and clinical sessions.

For further information, write Dr. W. B. Peck, Managing-Director, Freeport, Illinois.

Symposium on Gallbladder Diseases

The following four papers constitute a symposium on diseases of the gallbladder, which was presented before the State Society at its last annual session. The symposium discusses in order respectively, the anatomic, the medical, the roentgenologic, and the surgical phases of the subject.

EXTRAHEPATIC BILE TRACT*

E. M. MAC EWEN, M.D., Iowa City

In applied anatomy we were taught to consider the abdominal cavity as being divided into three zones by two imaginary transverse planes. The subcostal plane, tangent to the lowest point of the tenth costal cartilage, passes through the third lumbar vertebra. The area above the plane forms the upper or subcostal zone. The middle zone is limited below by the intertubercular plane, or level of the body of the fifth lumbar vertebra. Each zone is subdivided into three regions, by vertical planes at each mid-poupart point. Above, this plane passes through the junction of the tenth costal cartilage with the ninth costal cartilage. These planes subdivide the upper or subcostal zone into a central region or epigastrium, and two lateral regions, the right and the left hypochondria. The middle zone is subdivided into the central or umbilical area, and

only as demonstrated by the fluoroscope and the x-ray, has shown us that relations seen in the cadaver cannot always be translated to the living; and that many conditions, glibly described by imposing names meaning misplaced viscera, are now known to be normal. A more perfect conception of the mode of development of the abdominal viscera has taught us that marked variations in the extent of this development may persist and still be normal, but that they entirely change the picture in many of these accepted regions. Modern physiology has taught us the interdependence of even remotely related organs. The gut and its embryologic derivatives (liver, pancreas, and bile tract), occupy the greater part of the abdomen. Because of their common origin, they have a closely interrelated blood and nerve supply, and hence they also have



Fig. 1. Liver lifted up showing the lesser omentum, and the foramen of Winslow. Note how the cystic duct enters the right side of the hepatoduodenal ligament to join the common bile duct.

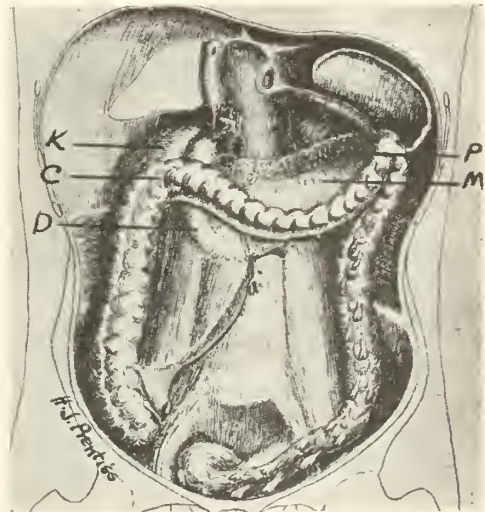


Fig. 2. Relations at first, second and third lumbar vertebrae. C, hepatic flexure of the colon; D, duodenum; K, right kidney; M, mesentery of the transverse colon; and P, pancreas.

two lateral or lumbar areas. Unfortunately these regions were defined many years ago in the autopsy room. The definite location of certain organs in each of these areas was overstressed. Living anat-

interrelated functions. Thus no part of the whole system can be affected without some disturbance occurring in a more remote part. Because of the above facts these old topographic areas have lost much of their value. Within the epigastrium we normally find not only the extrahepatic bile tract, but also a large portion of the liver, stomach, duodenum, pancreas, kidneys and the upper part of the ureters. (See Figures 1 and 2.) Direct or indirect involvement of any of these organs leads to confusion in the diagnosis.

A brief review of a few of the relations in this

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

area is a fitting prologue to a symposium on gall-bladder disease. Since many of the abdominal structures are freely movable and are constantly changing position in their normal functions, this region should be approached from fixed landmarks. Nearly thirty years ago Dr. Henry J. Prentiss called attention to the fact that the first lumbar vertebra is located midway between the episternal notch and the upper border of the symphysis pubis. This landmark locates the pyloric valve and the beginning of the duodenum. Since the greater part of the duodenum is closely applied to the posterior wall behind the peritoneum, it is a relatively fixed organ. The subcostal plane locates the third lumbar vertebra. The first piece of the duodenum passes backward to reach the posterior wall in the region of the neck of the gallbladder. The second portion descends on the right side of the bodies of the second and third lumbar vertebrae to the level of the fourth lumbar vertebra, and in its course rests on the hilus of the right kidney and the upper part of the ureter. It then turns to the left and upward, crossing over the inferior vena

hepatoduodenal ligament. It forms the anterior boundary of the epiploic foramen of Winslow. (See Figure 1.) In the right margin of this ligament, the common bile duct descends to pass behind the first piece of the duodenum. About one centimeter to the left of the duct the hepatic artery passes up to the portal fissure of the liver. The portal vein is located between and behind the hepatic artery and the common duct. (See Figure 3-A.) Usually the hepatoduodenal ligament parallels the right side of the body of the first lumbar vertebra, directly anterior to the inferior vena cava. The lesser peritoneal sac or bursa omentale is behind the lesser omentum and the body and pylorus of the stomach. (See Figure 3.) Normally, this sac communicates with the major peritoneal cavity through the epiploic foramen of Winslow. This foramen is bounded above by the caudate lobe of the liver, below by the first piece of the duodenum, behind by the inferior vena cava, and anteriorly by the hepatoduodenal ligament. If there are no adhesions, slight downward traction of the duodenum will tense the ligament

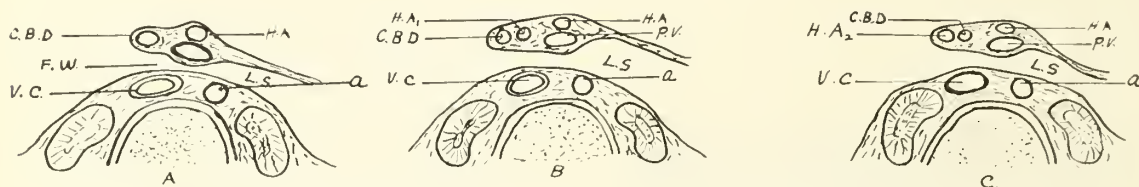


Fig. 3. Variations in the relations of the common bile duct. A shows the normal relations, while B and C show variations. A, aorta; C.B.D., common bile duct; F.W., foramen of Winslow; H.A., hepatic artery; H.A.₁, and H.A.₂, accessory hepatic arteries from the superior mesenteric artery; L.S., lesser peritoneal sac; and V.C., vena cava.

cava and aorta, to end at the left side of the second lumbar vertebra. Its termination is fixed to the left crus of the diaphragm by the suspensory muscle of Treitz. The duodenum closely encircles the head of the pancreas. The root of the transverse mesocolon passes from left to right along the pancreas to end at the duodenum. The first part of the transverse colon rests on the descending portion of the duodenum dividing this organ into three parts: a supracolic, a retrocolic, and an infracolic portion. (See Figure 2.) The retrocolic portion is in relation to the hilus of the right kidney. The papilla of Vater is located on the posteromedial wall of the retrocolic portion of the duodenum. Thus the upper part of the ureter and the terminal part of the pancreaticobiliary tract are closely associated.

A double fold of peritoneum, the lesser omentum, is attached to the first piece of the duodenum, thence along the lesser curvature of the stomach to the esophagus, then to the right along the margins of the hilus of the liver. (See Figure 1.) The right margin of this fold is free and is called the

and the finger is readily passed into the lesser sac. The operator can now readily palpate the greater part of the common bile duct, the first piece of the duodenum, the posterior part of the body and pylorus of the stomach, and the upper part of the pancreas. The lesser omentum is a remnant of the primitive ventral mesentery. In embryos of about three millimeters a longitudinal groove appears on the ventral surface of the gut, just distal to the stomach. The cells of this groove proliferate and form a bud that pushes up between the folds of the ventral mesentery. As development continues, the anterior part of this bud becomes a cord of cells, the anlage of the liver. The caudal part remains hollow, the anlage of the gallbladder. Gradually the bud is constricted at its attachment to the gut forming a hollow slender stalk, the common bile duct. The lower part of the gallbladder soon constricts down to form the cystic duct. The portion above this constriction becomes the hepatic duct. The latter divides as the two major lobes of the liver are formed into a right and a left branch.

In the meantime another bud has appeared on

the right side of the common bile duct close to the duodenum. This is the anlage of the ventral pancreas, later to become the head of the pancreas. The body and the tail of the pancreas develop from another bud arising directly from the duodenum, called the dorsal pancreas. Like the cystic duct and the gallbladder, the head of the pancreas and the duct of Wirsung are off-shoots of the common bile duct. This accounts for the adult relation. Variations in the relation of the common bile duct and the pancreatic duct depend upon first, the closeness of the origin of the ventral pancreas to the wall of the duodenum; second, the amount of the terminal portion absorbed into the developing wall of the duodenum; third, the ventral pancreas may arise directly from the duodenum so that the two ducts will have separate openings from the beginning; and fourth, when the ventral pancreas fuses with the dorsal pancreas, the ducts of the head may join the duct of the dorsal pancreas. The normal duct of the head obliterates, so all of the secretion from the pancreas must pass to the gut via the duct of Santorini. This is the duct of the

the duct of Santorini that atrophies. At times both ducts persist. When present the duct of Santorini crosses over the common bile duct and may be injured in manipulation of the latter duct.

The extrahepatic bile tract of the adult consists of the right and the left hepatic ducts, the common hepatic duct, the cystic duct, the gallbladder and the common bile duct. Since the first five are arborizations of the common bile duct, variations are common, not only in the level at which the branching occurs, but also in the number and form of the branches. (See Figure 4.) Since the right and the left hepatic ducts are usually found in the hilus they are of least concern to the surgeon. They are almost horizontal in position and join the common hepatic duct like the cross bar of the letter T. At times their course is very oblique, their junction forming the common bile duct. In Figure 4-I observe that the cystic duct is a branch of the right hepatic duct and that there is no common hepatic duct. The common hepatic duct or stem of the T shaped hepatic ducts, when present, extends from the hilus or junction of the right and left ducts to the origin of the cystic duct. It is very variable and may be absent. When present its length varies from five millimeters to ten centimeters. At times it is double throughout most of its course, as shown in Figure 4-M. The cystic duct may join the common hepatic duct behind the first piece of the duodenum, there being no part of

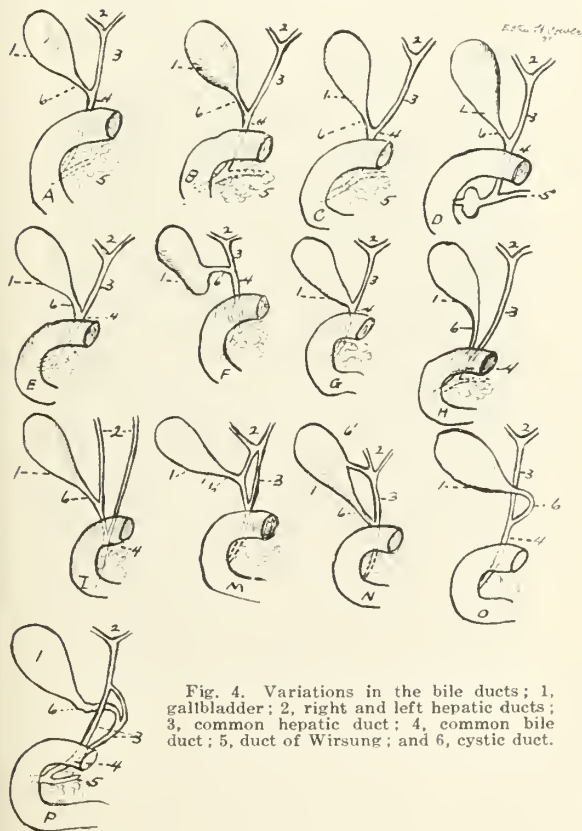


Fig. 4. Variations in the bile ducts; 1, gallbladder; 2, right and left hepatic ducts; 3, common hepatic duct; 4, common bile duct; 5, duct of Wirsung; and 6, cystic duct.

dorsal pancreas and opens into the adult duodenum about twenty-five millimeters above the papilla of Vater. In such cases the pancreatic duct does not join the common bile duct. It is an absence of the duct of Wirsung. Most commonly however it is



Fig. 5. Showing the gallbladder in the right lumbar region.

the common bile duct in the hepatoduodenal ligament. (See Figure 4-H and N.)

The gallbladder is a pear-shaped sac resting in a fossa on the under surface of the right lobe of the

liver. Its average length is about nine centimeters, and its capacity is about fifty cubic centimeters. It is divided into a fundus, a body and a neck. The gallbladder lies between the peritoneum and the liver substance and normally is closely bound to the liver by the peritoneum. At times it is completely imbedded in the liver. Distention or other conditions may cause the peritoneum to stretch and we find a pendulous gallbladder suspended by a mesenteric like fold, or mesocyst. This is in no way comparable to a true mesentery. In the anatomic position the fundus is the most dependent part. It projects just below the anterior sharp border of the right lobe, behind the junction of the tenth and the ninth costal cartilages. On the surface of the body this is directly behind the point at which the lateral margin of the right rectus abdominis

lesions between the fundus and the colon or duodenum are very common. Not uncommonly we find that the gallbladder has ulcerated through both walls. The neck is really the constricted portion of the body passing into the cystic duct. It is important chiefly from its curved course. It frequently forms an S shaped curve so that the cystic duct appears to come off the side of the body. The S may turn toward the fundus. The gallbladder may be in the right lumbar region as illustrated in Figure 5. The cystic duct ranges in length from one to nine centimeters or more, and may join either the right hepatic duct or the common bile duct. (See Figure 4.) At times its junction with the latter is at the upper border of the pancreas. It may enter the common bile duct on the right side, as shown in Figure 4-O. More frequently it enters slightly posteriorly. At times it passes behind the common bile duct to enter the left side of a double duct. This variation is illustrated in Figure 4-P. The mucosa of this duct is folded. These crescentic folds, remnants of the spiral valve of fetal life, may prevent a probe from passing through the cystic duct. Accessory cystic ducts are found. Usually they are

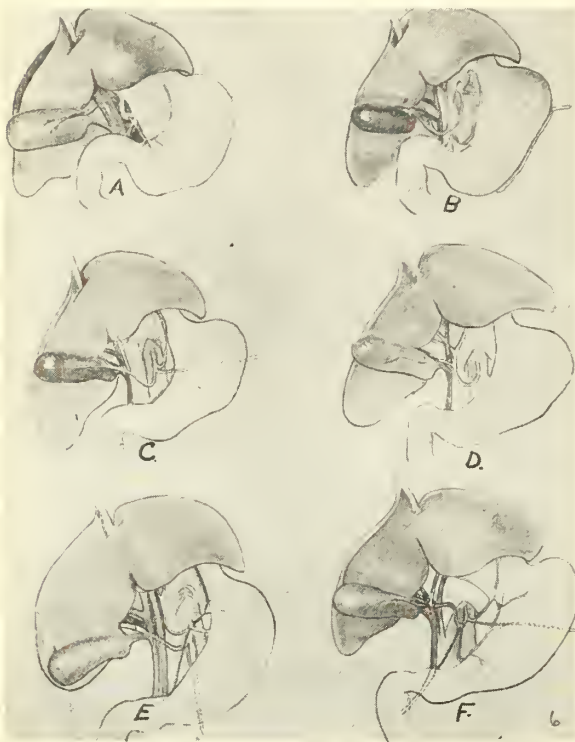


Fig. 6. A few variations in the course of the cystic artery; A, passing behind a double common bile duct; B, passing over the common bile duct at a low level, splitting around the cystic duct; C and D, over the duct at the level of the cystic duct; E, from an accessory hepatic artery, and F, the common type.

muscle crosses the costal angle. Normally the fundus is in relation to the transverse colon. A pendulous gallbladder or low placed colon will bring the fundus into relation with the duodenum. The body extends upward, backward and to the left, to end in the neck. Near the neck it is in relation to the first piece of the duodenum. Thus the entire length of a pendulous gallbladder may be in contact with the duodenum, adhesions forming between the two. In the dissecting room ad-

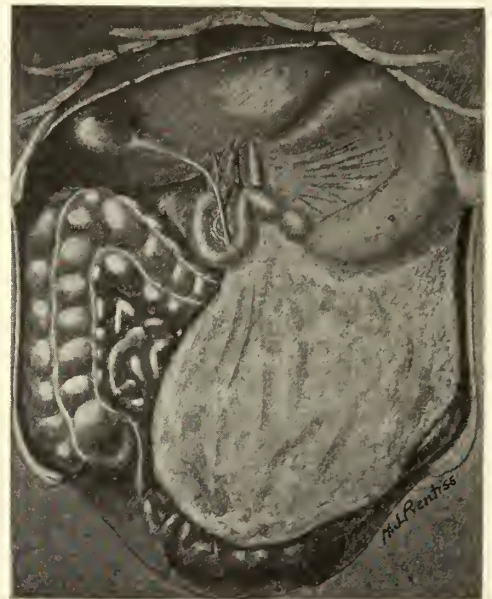


Fig. 7. A typical rotation of the intestinal tract. Duodenum not crossed by colon; directed up instead of to the left.

small and pass to the right hepatic duct. At times they are large and may arise from the neck, instead of from the cystic duct.

The common bile duct is the parent stem from which all the others branch. It is usually about seven or eight centimeters long and extends from the retrocolic portion of the duodenum to the level of the cystic duct. The variations described in

Figure 4 modify its length and course. From the level of the cystic duct, it descends in the right free edge of the hepatoduodenal ligament, usually to the right of all the blood vessels, as shown in

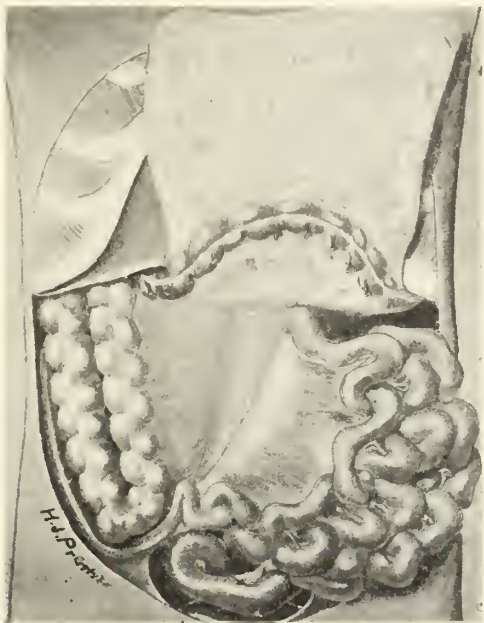


Fig. 8. Overgrowth of descending colon, calcium in extreme right subcostal region.

Figure 6. It then descends obliquely downward and to the right, behind the first piece of the duodenum. In this region it is crossed by either the gastroduodenalis artery or one of its branches.

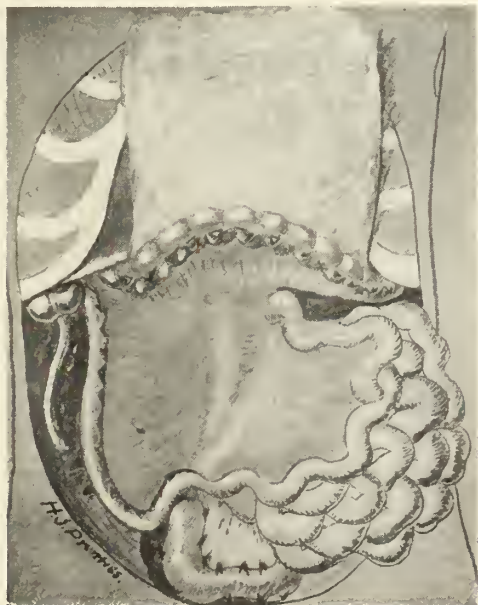


Fig. 9. Undescended colon, calcium at the level of the subcostal plane.

This artery may, after reaching the right side of the duct, turn to the left and downward behind the duct. This vessel can easily be damaged in following down the common duct. The duct then descends in the substance of the head of the pancreas, or between the head of the pancreas and the second portion of the duodenum; it is very intimately related to the inferior vena cava. It may join the duct of the pancreas before or after entering the wall of the duodenum, and where it joins a dilatation is formed called the ampulla of Vater. This opens on the summit of a small papilla, the papilla of Vater, on the posteromedial wall of the retrocolic part of the duodenum, about nine centimeters below the pylorus. The duct of Wirsung may be absent, or the two ducts may open by separate orifices on the papilla. At times the gut does not complete its rotation and the entire course of the common bile duct is accessible to the operator without disturbing the duodenum. (See Figure 7.) Under or overdevelopment of the large intestine may complicate the diagnosis. Figures 8 and 9 illustrate these conditions.

In perhaps no other region of the body are vascular variations more common. Many of these aberrant vessels are intimately related to the

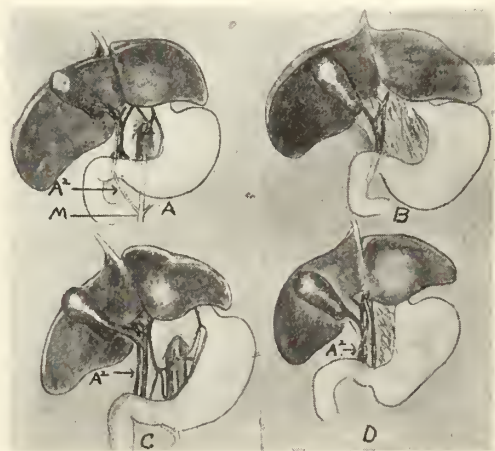


Fig. 10. A, accessory hepatic artery from the superior mesenteric; B, double common bile duct; C, accessory hepatic artery on right side of the common duct; and D, accessory hepatic artery spirals around the common bile duct. (A2, accessory hepatic artery and M, superior mesenteric artery.)

hepatic duct, the cystic duct, or the common bile duct, or to all. In the majority of cases the vessels follow the usual textbook description. The hepatic artery arising from the celiac axis, passes to the right beneath the peritoneum of the lesser sac. At the level of the first piece of the duodenum it turns upward in the hepatoduodenal ligament, about one centimeter to the left of the common bile duct,

and anterior to the portal vein. As it enters the lesser omentum it gives off the pyloric and the gastroduodenalis branches. (See Figure 6.) The hepatic artery terminates below the hilus by dividing into a right and a left branch; the right branch usually passes behind the hepatic duct to enter the hilus and supply the right lobe of the liver. It may pass over the duct or it may divide into two branches, one passing behind and the other in front of the common hepatic duct. The cystic artery usually arises from the right hepatic artery just before it enters the hilus. It may, however, arise from the right hepatic artery before this vessel passes beneath or over the hepatic duct. Usually in such cases the cystic artery passes anterior to the duct. When the right artery is double, both may give off cystic branches, one going to the free surface of the gallbladder, the other passing along the attached surface. (See Figure 6.) Variations in the level at which the hepatic artery divides are too numerous to mention. The cystic artery normally passes downward and forward along the neck of the gallbladder, and divides into two branches, one to the free and the other to the attached surface of the gallbladder.

Two aberrant hepatic arteries are common. One rises from the gastric artery and is of no concern in this symposium; the other rises from the superior mesenteric artery. The hepatic branches from the superior mesenteric artery seriously complicate the relation of the common bile duct, and are frequent enough to be considered normal from a surgical point of view. They form accessory right hepatic arteries and are as large or larger than the typical vessel. They may arise from the mesenteric artery either at the level of the upper border of the pancreas or just as this vessel emerges at the lower border of the pancreas, or at both levels. (See Figure 10.) Usually when this vessel arises above the pancreas, it ascends obliquely behind the portal vein, then upward, lying between the common bile duct and the usual hepatic artery. It may pass over or behind the hepatic duct to reach the right lobe of the liver. It may give off the cystic branch, or an accessory cystic branch. (See Figures 3 and 10.) When this accessory artery arises at a lower level, it ascends behind the head of the pancreas, then passes either to the right or to the left of the common bile duct. If to the left of the common bile duct the course is similar to the accessory vessel just described. If on the right of the common bile duct, it either continues up on the left side, or spirals around the common bile duct to reach the right side of the duct. It may supply a cystic branch, as shown in Figure 10-C and D.

CONCERNING THE MEDICAL ASPECT OF CHRONIC DISEASE OF THE GALLBLADDER*

FRED M. SMITH, M.D., Iowa City

The introduction of cholecystography represented the advent of a new era in the development of knowledge of the physiology of the extrahepatic biliary tract and simplified the diagnosis of cholecystic disease. Despite these achievements, however, the problem of cholecystic disease is even more complicated than it was fifteen years ago. The problem is not so much the question of detecting the disease, but whether it is primarily responsible for the disability, and thus whether the removal of the gallbladder will bring about a cure. Prior to the introduction of cholecystography the diagnosis was based, for the most part, on careful clinical analysis, and ordinarily a definite diagnosis was not made by the more conservative clinician except in the presence of unmistakable manifestations; otherwise the patient was retained under observation and treated medically until it was evident that surgical treatment was justified. While the diagnosis was obviously more difficult, circumstances demanded more comprehensive evaluation of the clinical manifestations. During recent years great reliance has been placed on the findings from roentgenologic examination, resulting in a tendency to slight the clinical study and to extend the indications for surgical treatment. The more recent surveys of surgical treatment, however, have convincingly demonstrated that, except in cases with stones and unmistakable biliary colic and in those with extensive disease of the gallbladder, the results are very disappointing. It is apparent that even among surgeons recognized as leaders in this field there is an increasing conservatism toward surgical treatment.

Why is it so difficult to decide whether surgical treatment is indicated? In the first place, disease of the gallbladder is the most common disorder of the abdomen. It is generally agreed that the incidence of this condition, as evidenced by the findings at necropsy, is very high. Blackford, King and Sherwood¹ conclude that more than half of the adults past thirty years of age have abnormal gallbladders and approximately one-fifth have gall stones. Graham, Cole, Copher and Moore² in their monograph on disease of the gallbladder state, "Chronic disturbance of the gallbladder constitutes one of the most frequent ailments of adult humanity. There is no more interesting chapter in the history of medicine than the gradual de-

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velopment of the idea that this organ is accountable for much of the dyspepsia, much of the partial invalidism, and even a fair proportion of the cancer of the world." Thus it is not surprising that the possibility of cholecystic disease is generally uppermost in the mind of the clinician when he is consulted by a patient with upper abdominal distress, and that perhaps the symptoms are finally attributed to this disorder if the cholecystogram shows disturbance in the function of the gallbladder or the presence of a solitary stone. Moreover an operation is possibly advised because, as stated by Andrews,³ "Many of us have been influenced by the teaching that the mere diagnosis of disease of the gallbladder was sufficient to warrant surgery on the basis of the possibility of late complications such as empyema, jaundice, etc., which may necessitate an emergency operation carrying very high mortality".

It should be borne in mind, however, that even though it is generally agreed that the incidence of gallbladder disease is high, there is apparently no agreement among pathologists as to what constitutes a normal gallbladder. Graham and Mackey⁴ in commenting on the latter situation further state, "This is particularly true after middle life, the period in which most patients present themselves for operation for this condition. It is rare, therefore, for the gallbladder to be pronounced normal on the basis of microscopic examination." There are doubtless many instances presenting minor changes in the gallbladder or even solitary stones that are not producing significant symptoms.

The problem is further complicated by the fact that the age during which disease of the gallbladder is particularly common approximates that of various other conditions such as peptic ulcer, functional disorders of the gastro-intestinal tract, renal calculi, coronary artery disease and other less frequent diseases which may produce symptoms strikingly similar to those of the former. The dyspepsia syndrome, for which cholecystic disease is generally regarded as being the most common cause, is unlike that produced by a variety of abdominal conditions. Symptoms of this general character, therefore, should not be explained on the basis of the gallbladder except in the presence of unmistakable manifestations of the disease and in the absence of other demonstrable causes. The minor and atypical forms of biliary colic are indistinguishable from the distress produced by certain other abdominal conditions, notably, functional disorders of the gastro-intestinal tract. Moreover the history of jaundice as obtained from the patient, except as passed on by the referring physician, in my experience, is generally unreliable and usually confused with sallow skin. The

extent to which symptoms may be attributed to disease of the gallbladder and not substantiated by the roentgenologic examination is strikingly illustrated by the observations of Jenkinson⁵. He reports that in 95 cases with symptoms thought to be due to cholecystic disease referred to him for roentgenologic examination, 73 gave normal cholecystographic response. These findings are quite in accord with our experience at the University Hospital. Thus, in view of the general accepted opinion regarding the significance of roentgenologic findings of this character, it is safe to conclude that in the vast majority of these patients, the diseased state of the gallbladder was not responsible for the symptoms.

Finally, more recent studies have demonstrated that typical gallbladder colic and even jaundice may occur in the absence of cholecystic disease. Thus a functional derangement of the extrahepatic biliary tract, designated as hypertonic dyskinesia⁶ and by various other terms and similar from the standpoint of the essential features of the mechanism to that of the gastro-intestinal tract, has been definitely established. The orderly passage of the contents of the gastro-intestinal tract is dependent upon a coordinated sequence of relaxation and contraction. If relaxation fails to occur, and particularly if spasm develops ahead of a contraction wave, there is temporary interruption in the onward movements of the contents, and thus frequently symptoms are produced. This may occur in the esophagus (cardiospasm), in the stomach (pylorospasm), and in various sections of the colon (spastic colon). The evacuation of the gallbladder is contingent on the relaxation of the sphincter of Oddi. With a hypertonic state of the sphincter guarding the passage of the bile into the duodenum there is an interference with the normal evacuation of the gallbladder. Since this sphincter is capable of withstanding much greater resistance than that of the contraction of the gallbladder, the contents of the latter, under certain circumstances, may be subjected to considerable pressure and thus biliary colic is produced. That this situation occurs is not surprising in view of the intimate relationship of the function of the extrahepatic biliary tract to that of the gastro-intestinal tract and the frequent occurrence of a functional disorder of the latter. It is evident that the demonstration of the existence of a functional derangement of the extrahepatic biliary tract has further complicated the diagnosis of cholecystic disease. Heretofore, biliary colic and jaundice have been regarded as the more distinctive expressions of this condition; now it is apparent that further care must be exercised in the evaluation of these symptoms. Moreover, in view of the high

incidence of functional disorders of the gastro-intestinal tract it seems quite probable that further study may demonstrate that a hypertonic state of the sphincter of Oddi commonly occurs.

How are we to avoid some of the mistakes that we have made in the past? It is the unanimous opinion of those who have recently discussed this question that more consideration must be given to the clinical study. An adequate history, taken or carefully checked by one with experience, is without question, by far the most important step in the diagnosis of disease of the gallbladder. In many instances, it may be necessary to recheck the history several times, not only from the standpoint of verifying the story as given, but with reference to the possibility of obtaining additional information. The history of any abdominal complaint should include a careful survey of the function of the entire gastro-intestinal tract. Disturbance in the function of the bowel, however, is one feature which is commonly overlooked unless a detailed inquiry is made relative to the character and frequency of the stools. Many patients, particularly women, are likely to slight this aspect of the history or perhaps give the wrong impression unless an inquisitive attitude is maintained. It should not be necessary to prod ourselves with reference to the importance of these basic and fundamental diagnostic procedures, but as a matter of fact most of our mistakes may be traced to an inadequate history or a cursory physical examination.

Cholecystography has had much the same history as that of the basal metabolic rate and the electrocardiogram, in that too much reliance has been placed on it. As a matter of fact the findings for a laboratory procedure, when the technic is carefully carried out are, in general, remarkably reliable. The findings, however, must fit in with those obtained from the clinical study. Disturbances in function, even to the point of non-visualization may be, and possibly are frequently incidental findings and perhaps have no significant bearing on the production of the symptom. There is an increasing tendency to attribute more and more of the clinical manifestations of disease of the gallbladder to stones. Thus, unless the cholecystogram demonstrates stones or there is justifiable reason to believe that they are present from the history of biliary colic, it is very questionable that an operation is warranted, particularly in view of the results of the more recent surgical surveys. There are those, particularly Andrews, who are beginning to feel that the gallbladder has a rather definite function. He believes that the loss of function may bring about a syndrome of vague indigestion, and further concludes that this syn-

drome may be brought about by either nonfunctioning of the gallbladder from the closure of the cystic duct or by cholecystectomy. Andrews states: "In other words, we have been attempting to cure symptoms which we attribute to an irritation from the gallbladder which were really due to a non-functioning of the gallbladder and the results have been disappointing in well over half of the follow-up cases such as were reported by Graham, and Mackey and Palmer."

Finally, I wish to mention some of the conditions which may be mistaken for cholecystic disease, and to emphasize one disorder. It is common knowledge that any condition which produces the dyspepsia syndrome or attacks of more severe distress in the upper abdomen may be confused with chronic disease of the gallbladder. The more common of these include organic and functional states of the stomach and bowel, coronary artery disease and perhaps lesions of the urinary tract, particularly renal calculi. Among the more rare conditions may be mentioned hypertrophic arthritis or destructive lesions of the thoracic vertebrae, hepatitis, particularly when accompanied by jaundice, acute or chronic pancreatitis, tabetic crisis and lead colic. Even this incomplete list is quite formidable and emphasizes the importance of viewing a patient with symptoms suggestive of disease of the gallbladder from a very comprehensive standpoint.

In our experience at the University Hospital a functional disorder of the gastro-intestinal tract is by far the most common condition mistaken for cholecystic disease. In the first place a large percentage of the patients referred to us with the probable diagnosis of disease of the gallbladder gives a normal cholecystographic response, and in the vast majority of these a functional disturbance of the gastro-intestinal tract is the only explanation found for the clinical manifestations. The term gastro-intestinal is used because frequently there are symptoms directing attention to both the stomach and bowel. Symptoms of a gastric origin are indistinguishable from the digestive symptoms commonly attributed to the gallbladder. Moreover, these patients often give a history of intolerance to fat, greasy and coarse foods which in the past has been regarded as rather distinctive of cholecystic disease. When the irritability of the bowel is prominent in the ascending portion and the hepatic flexure of the colon, attacks simulating biliary colic to the extent that the distress may be referred to the back, often occur. The history discloses a disturbance in the function of the bowel as manifested by constipation or constipation alternating with varying degrees of diarrhea. Thus the

nature of the attack is ordinarily readily identified by the occurrence during a period of exacerbation of the bowel condition as evidenced by the character of the stool and the fact that the distress is usually promptly relieved by the free passage of gas or complete evacuation of the bowels. If there is still a question concerning the diagnosis, the inflation of the colon by the introduction of air through a rectal tube will generally reproduce the distress. It is possible, as previously pointed out, that certain of these patients may have recurring spasm of the sphincter of Oddi interfering with the normal evacuation of the gallbladder and at the time of the roentgenologic examination a normal cholecystographic response is observed. Even though the cholecystogram shows evidence of impaired function to the extent of non-visualization, one should be hesitant in attributing the symptoms to the gallbladder until an attempt is made to control the symptoms by medical management, or until more definite manifestation of cholecystic disease develops.

SUMMARY

It is apparent that we are entering a period of considerable doubt regarding the clinical manifestations and treatment of chronic disease of the gallbladder. Certain of the generally accepted teachings of the past are now being seriously questioned. The problem is not so much the matter of detecting the disease but whether it is responsible for the disability, and thus whether the removal of the gallbladder will bring about a cure. While cholecystography represents a notable advance in the diagnosis, yet it is generally agreed that we must rely more on careful analysis of the clinical manifestations. The significant rôle of functional disorders of the gastro-intestinal tract in the production of abdominal distress is a relatively new development and just beginning to be generally appreciated. That a similar condition exists with reference to the extrahepatic biliary tract has further complicated the problem of cholecystic disease and is certain to have an important bearing on the further advances in this field. Finally, in view of these developments, it seems probable that a far more conservative attitude regarding surgical treatment may develop.

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THE X-RAY EXAMINATION OF THE GALLBLADDER*

CARL L. GILLIES, M.D., Iowa City.

Since objects are visible by x-ray only when they differ in density from the surrounding medium, it follows that the normal gallbladder which is of the same density as the adjacent tissues cannot be demonstrated by x-ray unless it is either filled with or surrounded by a contrast substance of higher or lower density.

In 1924 Graham and Cole¹ introduced a test of gallbladder function which allows us easily to fill the gallbladder of a normal person with a contrast substance of increased density. As now employed this test consists essentially of the oral or intravenous administration of a phenolphthalein compound of high iodine content. This dye, as it is conveniently called, after being given to a normal individual, has the property of being carried by the blood stream to the liver where it is excreted into the bile. With the bile some of the dye is carried directly into the duodenum while the remainder is stored in the gallbladder, where it is concentrated by the absorption of water. Because this iodine containing compound is a more dense substance than the surrounding tissue, this concentrated bile within the gallbladder is then visible as a uniform opaque shadow upon an x-ray film. (See Figure 1-A.) Since fat is the normal stimulus to gallbladder emptying, a film taken



Fig. I

A

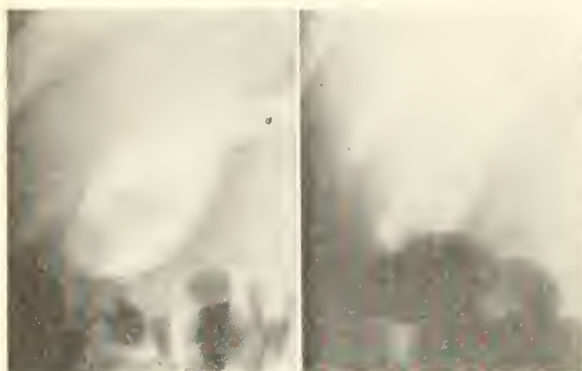
B

after a fat meal will show shrinkage or complete emptying. (See Figure 1-B.) Such a response indicates a normally functioning gallbladder.

With gallbladder disease the power to concentrate the bile and contained dye is soon lost, in

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

which instance no shadow can be obtained by x-ray following the administration of dye. It does not follow, however, that a failure of the gallbladder

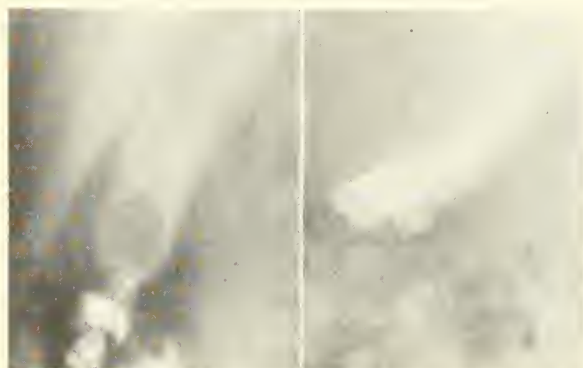


A

Fig. II

B

to visualize in a Graham-Cole test necessarily indicates gallbladder pathology; it may be due to any interruption to the usual course of events such as: failure of absorption, which may occur in the oral administration from vomiting or excessive diarrhea; liver damage, preventing excretion; blocking of the biliary passages by stone or neoplasm; emptying of the gallbladder from indiscretions of diet, particularly the taking of fatty foods; or failure of the gallbladder to concentrate the dye, which occurs when it is edematous from any cause such as ascites or cardiac failure. The gallbladder will also fail to visualize in the presence of jaundice when the icteric index is above thirty points. This corresponds to a faint tinting of the skin when viewed in a good light.² If these possibilities of error can be ruled out, and



A

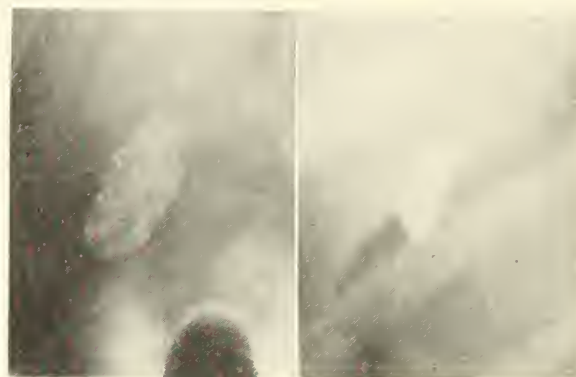
Fig. III

B

fortunately it is usually easy to do this, then a failure of the gallbladder to visualize is indirect evidence of gallbladder disease. Non-opaque stones can be diagnosed when the gallbladder retains sufficient function to visualize by x-ray. (See Figure 2-A and B.) These less dense stones

then appear as filling defects or holes in the surrounding dye. If the gallbladder fails to visualize it is then impossible to determine whether or not these stones are present.

Gallbladder pathology can be demonstrated without the Graham-Cole test when the effects of disease change the density of the gallbladder or its contents. Thus, stones containing calcium are readily demonstrated by x-ray and usually cast a characteristic ring-shaped shadow due to the



A

Fig. IV

B

presence of calcium around a non-opaque center. (See Figure 3-A.) Multiple stones are likely to be faceted from rubbing against each other. (See Figure 3-B.) Calcification of the gallbladder, while rare, can also easily be shown by x-ray. The presence of irregular plaques of calcium in the wall produces a typical mottled appearance. (See Figure 4-A.) A condition encountered even more rarely is one in which the gallbladder content is high in calcium, the so-called "limey bile." The appearance of this condition by x-ray may closely simulate a normal gallbladder containing dye. (See Figure 4-B.) If suspected, however, it can be easily differentiated by the fact that such a pathologic gallbladder is usually smaller in size, does not shrink after a fat meal, and is visualized in the absence of dye.

In competent hands the x-ray examination of the gallbladder with the aid of the Graham-Cole test has proved to be a valuable diagnostic procedure. The diagnostic accuracy of this test as checked by subsequent operation and pathologic studies has been reported by many observers. Two groups of cases have to be considered. Group 1. Cases where a diagnosis of gallbladder disease was made by x-ray and which later came to operation. In this group the diagnosis of gallbladder pathology has usually been confirmed in well over 90 per cent of the cases. Group 2. Patients with a normally functioning gallbladder as shown by x-ray, but who were operated upon. In this group

the diagnostic accuracy has been reported as high as 85 per cent.³ This classification does not take into account the patients showing either a normal or abnormal response to the test but without sufficient symptoms to warrant operation.

In recent years the x-ray examination of the gallbladder has received some undeserved criticism due, I believe, not so much to the fault of the method as to a misunderstanding of its significance. It must be borne in mind that the Graham-Cole test is a test of function and not a test of disease except insofar as disease prevents normal function. Even though a failure to visualize in a certain instance can be by exclusion be attributed directly to gallbladder disease it does not necessarily follow that removal of such a gallbladder will relieve the patient of his symptoms. Particularly will this be true if these symptoms are in part the result of some unrelated condition. It is a well known fact that cardiac, renal, pancreatic and gastro-intestinal disease may produce symptoms similar to, and at times indistinguishable from, gallbladder disease. Also, as pointed out by one observer⁴ recently, patients with a non-functioning gallbladder on one occasion may later after medical management show a normal response. It seems logical to suppose that the gallbladder may at times, like other organs, suffer from disease from which it may later recover so as to resume its normal function. It would seem that removal of such a gallbladder would not be to the patient's advantage.

While the x-ray examination of the gallbladder is an exceedingly valuable diagnostic procedure it must not be used to the exclusion of all others. Each individual case must be considered upon its own merits. All clinical and laboratory data should be given full consideration, together with the x-ray findings, before one arrives at a diagnosis and outlines a program of treatment. Only in this way can the best interests of the patient be served.

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SURGERY OF THE BILIARY TRACT*

An Evaluation of Poor Results Based on Diagnostic and Technical Errors

FRANK R. PETERSON, M.D., Iowa City

In 1927 Olch¹ reported a cure of symptoms in each of one hundred consecutive cases of gall-

bladder disease treated by cholecystectomy. In all other reports, including our own, a conspicuous number of failures to obtain cures after surgical treatment of biliary tract disease has been emphasized. Mackey², of Glasgow University, about four years ago, attempted to evaluate the efficiency of surgical procedures involving the biliary tract. His conclusions were based on the reported end results of over six thousand cholecystectomies published during the previous ten years by many surgeons. The essence of his conclusions was that "a cure or improvement may be expected in nearly ninety per cent of cases with stones and in rather over eighty per cent of cases without stones." Kunath³ of the Department of Surgery in our University Hospital, recently reviewed one hundred consecutive cases each of cholecystitis, with and without stones, treated by cholecystectomy. He obtained a report from eighty-five of the stoneless group and from eighty-three whose removed gallbladders contained stones. All had been treated more than a year previously. In the group without stones 69.6 per cent were cured or improved, and of those with calculi 84.3 per cent were satisfied with the results. The result of this study is somewhat less satisfactory than the general results would seem to be. At any rate, it is obvious that the results of most studies fall considerably short of our desire, since from twenty to thirty per cent of those without stones and from ten to fifteen per cent of those with stones have failed to obtain any benefit.

It is evident at the outset that when a surgeon attacks disease processes in a mechanism as complicated and important as the liver with its ducts and appended gallbladder, there will inevitably be fatalities. There must be some failures to obtain relief. We will not concern ourselves with the mortality rate in this discussion, important as that phase is. We believe, however, that we can explain at least some of our failures to give relief to a greater number of those who are subjected to so serious an operative procedure as is necessary in these cases, and such is the object of this discussion.

In our attempt to explain this high morbidity, we have thought it worthwhile to study briefly the symptomatology of biliary tract disease. We are all vividly aware of the acute sudden attacks of pain to which some of these patients are subject. However, this is only one of the manifestations of this disease. The symptoms of disturbed gastric function or "dyspepsia" has been increasingly emphasized, particularly since the cholecystogram has been almost universally accepted as an aid in diagnosis. The vague term "dyspepsia", unquestionably a frequent symptom of gallbladder

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disease, is often associated with other diseases such as disturbances of the gastro-intestinal tract, pelvis, urinary tract, vertebrae or even in the thoracic organs above the diaphragm. It was present in 112 of 159 cases in Kunath's series. However, twenty-one of the 112 patients failed to obtain relief after removal of the gallbladder. We know that some of these patients still have trouble because the gallbladder never was responsible for their symptoms of dyspepsia. We know that others continue to have trouble even though no cause for the symptoms other than the gallbladder was ever discovered. These facts make it evident that if a higher percentage of good results is to be obtained a more careful selection must be made of cases being considered for biliary tract surgery.

Some of these patients will, of course, present symptoms so typical that there can be little or no question as to their origin in the biliary tract. With recurrent attacks of sudden severe pain in the characteristic location and reference, diagnostic errors are rare, and the results of surgery are good. The infrequent failures are dependent essentially upon surgical irregularities and associated pathology such as are found in the liver, common duct, or pancreas. These associated lesions often may be prevented by early surgical treatment. There are many patients, however, whose history is only suggestive of biliary tract disease. It is particularly this group which demands careful study. Preferably a cholecystogram is obtained *after* all other conditions have been ruled out. One must never lose sight of the fact that many people have diseased gallbladders, some of them with stones, which never cause symptoms. One must never overlook the fact that the many conditions which produce symptoms simulating gallbladder disease may be responsible even with evidence of disturbed gallbladder function. Some of the more common of these conditions follow. Osteo-arthritis and tuberculosis of the spine, both readily demonstrated by x-ray, not infrequently produce symptoms ascribed to the biliary tract, and continue to do so after the removal of a possibly diseased gallbladder. Chronic constipation, with its associated digestive irregularities, may be responsible for symptoms blamed on a gallbladder which shows evidence of a disturbed function. Pylorospasm, with its pronounced "dyspeptic" syndrome, is particularly common with continued constipation. Such patients, unless the clinical evidence of gallbladder disease is pronounced and unmistakable, should not be subjected to surgery. Severe constipation is not a common associate of gallbladder disease.

Pathology of the right kidney or ureter, whether stone, inflammation or tumor, must and can easily

be ruled out in any questionable case. Peptic ulcer or gastric carcinoma also may cause embarrassment to a surgeon if exposed during a laparotomy for treatment of gallbladder disease. Duodenal ulcer, particularly, has accounted for this situation in our clinic on several occasions. In each instance the cholecystogram showed a mal-functioning gallbladder. A subsequent review of the records, however, revealed in each instance an atypical story for biliary tract disease, the cholecystogram apparently detracting our attention from the evident possibility of an ulcer as indicated by the patient's history. These instances, several years ago, so impressed us that all patients with a suggestive ulcer history have since then been examined, first of all by gastric x-ray series. If an ulcer is demonstrated, a cholecystogram is not made, for evidence of a disturbed gallbladder function may then be entirely secondary to the ulcer. There are, of course, other conditions more or less connected with the biliary tract that may prove confusing in our diagnostic attempts. Inflammatory lesions of the pancreas, whether acute or chronic, tend to produce symptoms closely simulating biliary tract disease, and in the vast majority of instances when present, the gallbladder is also involved. Chronic pancreatitis is an undoubted offender in occasional cases of failure to obtain results after operations on the biliary tract. It is generally agreed that the surgical treatment of chronic pancreatitis consists of eradicating disease of the biliary tract. That this should give uniformly good results is not consistent with logic. It is the best, however, that we can do. However, since the diagnosis can rarely be made clinically, one should never fail to disclose it, if present, at operation. Those affected certainly have less chance for complete relief than those not affected. Acute pancreatitis is usually diagnosed as a gallbladder involvement in the early stage, and whether we contend that acute cholecystitis should be treated surgically in the early stage or after the inflammatory signs have subsided, there can be no argument but that an acutely infected pancreas must be drained early. Rapid progress of symptoms, markedly debilitating in character, with little or no relief from the severe pain often greatest in the back, after a dosage of morphine that will control a biliary colic, is almost diagnostic of acute pancreatitis.

In a treatise such as this the importance of a diseased appendix must be considered. Does its removal have any effect on the results following cholecystectomy? In practically every clinic, surgical treatment of chronic biliary tract disease includes a routine appendectomy. Almost invariably the removed appendix shows evidence of path-

ology. There is much, therefore, to support the contention that a diseased appendix may contribute to the etiology of cholecystic infection. Even more important, however, is the probability that an appendectomy is responsible for some of the good results following cholecystectomy. A not uncommon occurrence of pylorospasm has been proved to be associated with chronic appendicitis. Pylorospasm means digestive disturbances and a possible mistake in diagnosis. Mackey concluded, after his extensive study, that the removal of the appendix had little effect upon the end result following. Maynard⁴ considered that an associated appendectomy may add slightly to the chance for a cure. Even so, Kinnath found that in the group whose removed gallbladders were normal, but who had an associated appendectomy, twenty-three per cent were cured of all their symptoms. In our opinion, at least some of these cases were cured because of the appendectomy. Certainly one has no facts on which to base an argument that a histologically normal gallbladder should ever be removed.

We contend that those individuals who have repeated attacks of acute biliary colic should be treated early, before complications result. It may be important, however, to emphasize the fact that colic does not necessarily mean that stones are present. In the one hundred cases of stoneless gallbladder referred to above, fifty-six complained of typical colic. The stoneless factor seems to be of little significance, for removal of a diseased gallbladder cures the colic even though no stones are present. The group whose complaints lack the element of pain but emphasize that of "dyspepsia", has fared poorly after surgery, 48 per cent of our patients failing to get a good result. It is evident that when some lesion other than the gallbladder can more logically explain the symptoms, surgery of the biliary tract should not be done. When some factor, such as chronic constipation or an irritable colon may be responsible, a period of medical and dietary management must, at least temporarily, be recommended. Further confirmation of the logic of this plan of management is that the great majority of those operated upon for colic and dyspepsia who fail to obtain a cure, designate the failure as a continuation of the "dyspepsia" syndrome.

INADEQUATE SURGERY

Drainage of the gallbladder is, and rightfully should be, rarely utilized in the treatment of biliary tract disease. The procedure is indicated essentially in that group in which acute inflammatory conditions make more radical surgery a distinct jeopardy. Drainage may then be instituted to give

greater assurance of recovery after which the gallbladder is advisedly removed. Rarely will technical difficulties in exposure, as such, justify the minor procedure. The necessity for re-operation is fairly certain after drainage and then the technical difficulties will be greater rather than less. There will be an occasional patient whose general disability will determine the less radical procedure even though a more extensive operation might be simple. Occasionally the gallbladder may be left in situ in anticipation of its advantage in a short circuiting procedure in case one should find common duct pathology of a type suggesting this necessity, and the pathology of the gallbladder is minimal. Except for the above indications, a diseased gallbladder should be removed.

Jaundice, associated with biliary tract disease, although diagnostic in its significance, indicates a *complication* of simple gallbladder disease. Although the latter is the most common origin of disease in the ducts, uncomplicated gallbladder disease whether due to gall stones, inflammation or neoplasm, does not produce jaundice. This complication, when present, immediately removes the victim from the class which can be treated with a low mortality rate and good results, and places him in the group demanding prompt surgery, but with a much increased surgical risk and less chance for a complete cure. This frequent complication emphasizes the need for early recognition of gall stones and the advisability of surgery before such complications occur. This is true of those patients who have had at least one attack of typical acute gall stone colic.

Perforations of the biliary tract are not frequent, and stones are almost invariably the cause. A free perforation with a bile peritonitis or a localized abscess demand prompt surgery, but carry the highest mortality rate of any of the complications encountered. No less serious is a fistulous communication with the enteric canal. This situation is uniformly associated with stones; the latter have accounted for several instances of acute intestinal obstruction by the stone after entering the intestinal lumen, as well as deaths from failure of the repaired hollow viscus to heal. Lahey⁵, in 1927 wrote "there are few, if any, harmless gall stones. * * * We believe every patient with gall stones is better off once these have been successfully removed." Over ten per cent of the operations done on the biliary tract in our clinic are re-operations. A large number of these are for the removal of a previously drained gallbladder. However, many are done because of a continuation or recurrence of symptoms after cholecystectomy. Most of these re-operations involve the common duct. In many, an overlooked stone is responsible. There can be

no denial that palpation alone of the extrahepatic ducts will fail to reveal many instances of calculi. Young⁶ in 1929 reported that in the postmortem examinations performed on patients dying following operations on the biliary tract, stones were found in the common duct in 61.3 per cent. All of us who have had much experience in biliary tract surgery have been guilty of this oversight. Probably no one has been more energetic in the publication of warnings in this regard than has Lahey⁵. About three years ago he published the results of a study in which he showed that in over one-third of his cases the common duct was then being opened and explored and that as a result of this more energetic surgical procedure, the number of cases in whom stones were found had been increased from 8.4 per cent to 15.0 per cent.

The presence of jaundice is, of course, always suggestive evidence of a stone in the common duct. However, the lack of jaundice is not proof that no stone is present in the common duct. Lahey also reports that in over one-third of his patients in whom stones were found in the common duct, no jaundice was or ever had been noted. Our experience has been comparable. About three years ago, during one month, in a series of fifteen patients in our clinic in whom stones were found in the common duct, twelve denied a history of jaundice. These cases are mentioned to impress the necessity of always being prepared to enter the common duct when an operation for gallbladder disease is planned. Failure to adopt this policy can mean only an increase in the number of complete failures to obtain benefit. These facts make it obvious that there must be formulated certain criteria for opening the common duct. The indications, as emphasized in our clinic, are briefly as follows: when a gallbladder containing stones is exposed, the common duct must be opened and explored,

1. Whenever a stone is palpated in the duct.
2. Whenever something is felt which might be a stone.
3. Whenever the common duct is enlarged, the increase in diameter being beyond the compensatory dilatation that accompanies a non-functioning gallbladder.
4. Whenever the wall of the common duct is thickened.
5. Whenever the cystic duct is obviously dilated and thickened.
6. Whenever there is jaundice or a history of its presence.
7. Whenever there has been a history of repeated chills not attributable to other factors.

We confidently believe that with any of the above

indications, all of them except jaundice and chills being disclosed during the operative procedure, an exploration of the common duct is indicated. It is true that in some instances nothing abnormal will be found in the duct but the procedure is far less damaging than the failure to remove pathology. In the majority, definite pathology will be found. It may be a stone or stones; it may be a mass of bile mud packed in the distal end of the duct; it may be an inflammatory constriction of that portion of the duct within the duodenal wall; or it may be compression of the duct by an enlarged chronically inflamed pancreatic head.

The use of a suction tube is most advantageous in preventing contamination by escaping bile after incising the duct. It is also very helpful in removing stones, especially in the hepatic ducts, and too great emphasis cannot be made of the care necessary in the search for stones. An ovoid or globular non-faceted stone is probably single. Most stones, however, are faceted, having entered the duct from the gallbladder, and they may be single or multiple. Irrigation of the distal common duct through a catheter, the irrigating fluid being taken up with the suction tube, is very helpful in clearing the duct of sediment and not infrequently of stones. Routinely a specially curved dilator is passed through the sphincter into the duodenal lumen. If constriction is encountered at the outlet of the duct, the graduated dilators are used to enlarge the duct opening to at least seven millimeters. Ordinarily a small T-tube is sutured tightly into the duct. There is very little advantage in using a large tube. Its purpose is essentially a safety valve kept in place until all the bile passes freely into the duodenum. Rarely is the tube removed in less than eighteen days. We frequently irrigate the common duct postoperatively through the T-tube, thereby preventing accumulation of mucus and sediment in the distal portion of the duct, and in some instances utilizing an available method of giving fluids.

All patients with common duct drainage are given bile salts by mouth until bile again passes freely into the duodenum. It has been frequently demonstrated that the loss of bile from the intestinal tract is detrimental to the patient, and accounts for the loss of appetite, obstipation and lethargy, and common manifestations, which disappear promptly when bile salts are supplied. Though the proprietary product is good, we find that human bile is much more beneficial, 150 to 500 cubic centimeters being given by mouth daily, preferably the patient's own bile being used. If, for any reason this cannot be done, another patient's bile is usually available. Aside from the digestive disturbance which accompanies the loss

of bile, one must also realize that the fluid balance and blood chemistry may be upset by the amount of fluid which may be lost through the tube in twenty-four hours. That amount usually does not exceed 500 to 700 cubic centimeters, but we have noted a loss of as much as 2,500 cubic centimeters in a day. Although not common, a chronically diseased pancreatic head will sometimes compress the common duct sufficiently to produce biliary obstruction. This can usually be obviated by gradually enlarging the duct with the dilators and the passage through the affected area of the distal limb of the T-tube, even so as to extend into the duodenum. The T-tube is never removed until it has been clearly proved, either clinically or by x-ray, that the communication between the duct and the duodenum is normally patent.

It is obvious, from the previous discussion, that in all cases in which cholecystostomy is considered justified, the common duct is exposed. This we believe to be essential in the surgery of the biliary tract not only for the determination of its objective characteristics, but for the purpose of definitely locating its position and determining its relation to the cystic duct and gallbladder. Of the complications which follow surgical treatment of the biliary tract there is none so difficult of management, or so likely to produce permanent disability, as traumatic injuries to the common or hepatic ducts. Such accidents cannot be entirely avoided even by the most skilled surgeon. However, it is still true that the prevention of accidental injury to the ducts is dependent upon the exact knowledge of their position. A review of our cases has clearly demonstrated that this failure to locate the ducts has also led to many inadequate cholecystectomies. This latter procedure should invariably include the cystic duct. In order that this duct be adequately removed without injury to the common duct, the juncture of the two ducts must be located. As a result of this failure, among the patients in our clinic who have been re-operated upon after cholecystectomy, we have found fifteen* instances of "reformed" gallbladder, or as some choose to call it, a dilated cystic duct.

The size of the "reformed gallbladder" varies somewhat, depending upon the length of the duct which was left and whether or not some of the gallbladder ampulla was left attached. In all instances the wall was thick and markedly diseased. In seven of the fifteen cases it was tightly frozen to either the hepatic or common duct by dense adhesions, and in five others it was buried in dense adhesions, usually attached to the liver. In five it had produced angulation of the common duct and more or less obstruction as a result. Four con-

tained at least one stone and all contained either bile sand or infected granulation tissue. Nine patients presented a history of jaundice; six had had jaundice for the first time following cholecystectomy. In every instance it was considered that the reformed gallbladder was responsible for or contributed markedly to the return of symptoms. In several other instances, a long cystic duct was found and removed which, because of its normal histology, had not been considered responsible for symptoms. It is inevitable that the greatest technical difficulties will be encountered in those cases with adhesions about and swelling of the mesocysticum and the gastrohepatic omentum. We may expect this type of pathology, however, with a diseased cystic or common duct. These are the cases which demand an exposure of the ducts in order that the operation be complete and that accidental injuries may be avoided.

SUMMARY

This discussion is based on the question "why have from ten to thirty per cent of the patients who have had surgical treatment for diseases of the biliary tract failed to obtain relief of their symptoms?" The symptoms of this condition vary markedly from severe colicky pain to mild digestive disturbances. The best results are found in the group which has had severe pain, probably because the factors producing pain are objectively more readily recognized and removed and the problem of diagnosis is more uniformly solved. However, the multitude of conditions which may produce symptoms referable to the upper abdomen, some of which may cause secondary disturbances of gallbladder function, makes necessary a careful differential diagnosis. The cholecystogram is usually confirmatory in the easily diagnosed cases, but is dependable in the questionable case only insofar as its limitations are recognized. Benign or malignant lesions of peptic origin are common conditions producing symptoms and signs suggestive of biliary tract disease. An x-ray series showing a normal stomach and duodenum is often more significant in differential diagnosis than evidence of a non-functioning gallbladder. Diseases of the spine, of the right kidney and ureter, of the intestinal tract, of the pancreas and liver, unrecognized preoperatively, add to the number of failures to relieve symptoms after biliary tract surgery. The more vague the symptoms of gallbladder disease, the less likely is surgery to relieve them. Such patients are evidently best managed by the internist, at least until their treatment has been proved ineffectual. Those who have repeated severe attacks of pain should be operated upon early to prevent damaging complications.

Jaundice is often the evidence of a complica-

* Another has been removed since this paper was written.

tion of gallbladder disease and usually indicates a stone in the common duct. There are other recognized causes for jaundice, but it must also be remembered that at least one-third of the patients with stones in the common duct do not have jaundice. This necessitates a direct study of the common duct in every case with gallbladder calculi and an incision into the duct for exploration when indicated. This plan of exposure of the common duct will decrease the number of injuries to the ducts as well as prevent many instances of inadequate surgery. A reduction of the number of unsatisfactory results after biliary tract surgery will require a more judicious selection of questionable cases, earlier treatment of those whose symptoms include severe colic, and a more concerted effort to avoid injurious or inadequate surgical procedures.

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ERYTHROBLASTOSIS FETALIS

KENNETH C. PIERCY, M.D., Maxwell

On February 20, 1937, a white female infant was delivered spontaneously after a labor lasting six hours. The birth weight was seven pounds and three ounces. At birth it was noted that the vernix caseosa was a deep lemon yellow and that the amniotic fluid was darker than normal; the placenta was somewhat enlarged; the infant cried spontaneously; there was no evident jaundice either of the skin or sclera. About two hours after birth the infant began to have attacks of marked cyanosis and appeared in extremis. The respirations were very shallow and there was a marked systolic murmur heard over the entire chest. A white blood count was done and revealed 235,000 nucleated cells per cubic millimeter of blood. Unfortunately no hemoglobin or red cell count was done. The infant expired after seven hours.

A partial postmortem examination was permitted and the following abnormalities noted:

The liver was markedly enlarged, almost filling the abdominal cavity; the surface was smooth and showed no abnormality, but the cut section showed considerable engorgement with blood; the spleen

was about twice the normal size and was engorged with blood; the heart was enlarged somewhat but the valves appeared normal and competent; there were areas of atelectasis throughout both lungs. A study of the blood smears revealed that from 95 to 98 per cent of the nucleated cells were red blood cells in all stages of development from very immature cells to normoblasts. Immature white blood cells were also seen in the smear. Sections of the liver showed areas of marked hematopoiesis, the liver being described as that of a three months' old fetus.

The parents of this child are normal with normal blood pictures. Two living siblings are normal as regards their blood picture. A sister of this child died after living thirty-six hours, and her condition was diagnosed as icterus gravis neonatorum with erythroblastosis.¹

The formation of blood cells in the embryo, is at first of an erythrocytic nature.² The cells come from the body stalk and the more general connective tissue, and in turn involve the liver, spleen and finally the bone marrow. The formation of leukocytes begins in the same organs but at a later stage. The liver and spleen attain their maximum function as blood forming organs in the last two months of gestation. At birth hematopoiesis is still occurring in the extramedullary sites but to a lesser degree. It continues throughout early infancy in the long and flat bones, the spleen and lymph nodes. In adult life this process occurs in the metaphysis of the long bones, the spleen and lymph glands. In infants² with the need for formation of more blood, there is naturally a rapid reversal to the fetal form of hematopoiesis with a reversal of the proportion of mature and immature forms in the peripheral blood. Erythroblasts and megaloblasts predominate, whereas normoblasts and reticulocytes, characteristic of adult bone marrow, are fewer in number. Infants may present at birth, or shortly thereafter, evidence indicative of a dysfunction of the hematopoietic and hemolytic system, unrelated to such discoverable factors as free bleeding, malignancy, congenital anomalies or sepsis.³ The disease is designated by a number of terms descriptive of the clinical manifestations. They are as follows:

1. Universal edema of the fetus
2. Icterus gravis neonatorum
3. Erythroblastosis fetalis
4. Congenital anemia of the newborn

In universal edema of the fetus there is a general edema, enlarged liver and spleen, and evidence in the tissue of anemia, icterus and extensive extramedullary blood forming islands. There is also an enlargement and edema of the placenta.

3, 4, 5 and 7. Icterus gravis neonatorum has a definite familial incidence, a very severe icterus and a poor prognosis. There is erythroblastosis, and an enlarged liver and spleen with extramedullary islands of hematopoiesis. A severe anemia later develops.

3, 4, 5 and 7. In erythroblastosis fetalis there is an enlargement of the liver and spleen, with a generalized edema, usually only with icterus gravis. There is a pallor of body tissues, erythroblastosis, and extraordinary hematopoietic activity of the liver, spleen, kidneys and other organs. Enlargement and edema of the placenta has been mentioned as occurring with this condition.^{3, 4, 7 and 8.} In anemia of the newborn there is a severe pallor and anemia occurring shortly after birth, associated with erythroblastosis, an enlarged liver and spleen, and extramedullary hematopoiesis in an abnormal degree, and an early and severe icterus.^{3, 4, and 5.}

The above listed diseases may be clinical varieties of the same underlying erythroblastic process. There is a definite familial tendency and subsequent pregnancies may produce a different clinical picture of the disease.⁶ The disease is probably due to a defect in the primitive germ plasm or fertilized egg. Erythroblastosis runs the major portion of its course in utero and during the first few days of life. It may occur in either sex. It has no racial predilection and the first born is usually spared. Its occurrence is not related to tuberculosis, toxemia or anemia of the mother. Treatment has been largely unsatisfactory.¹⁰ Multiple small transfusions offer the only hope.

SUMMARY

A case of erythroblastosis fetalis with death occurring in seven hours has been reported. The vernix caseosa was lemon yellow and the amniotic fluid was dark. There was no evident jaundice. A leukocyte count of 235,000 nucleated red cells made up 95 to 98 per cent of the count. Immature leukocytes were present in the smear. The liver and spleen were both enlarged. Attacks of marked cyanosis which terminated in death in seven hours were a feature.

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THE FINLEY HOSPITAL CLINICOPATHOLOGIC CONFERENCES

POSTTRAUMATIC PULMONARY EMBOLISM

F. P. McNAMARA, M.D., Dubuque

The sudden death of a convalescent patient from pulmonary embolism is always a dramatic and shocking event. Most doctors are familiar with the clinical picture of postoperative, postpartum or medical embolism, but apparently many are unaware of the frequency of embolism following trauma and especially fractures. Furthermore, judging by published reports, failure to diagnose the thrombosis which precedes the embolism is all too common in each of the four types. In this paper the importance of posttraumatic thrombosis and embolism, especially in elderly patients, is emphasized.

CASE REPORTS

Case 1. The patient, a white woman sixty-five years of age, was struck by an automobile and sustained an intertrochanteric fracture of the right femur. For three days the patient's temperature fluctuated between 97 and 100.6 degrees; the pulse rate gradually rose from 80 to 130 per minute. On the third day, shortly after an attempt was made to improve the position of the fracture, she died of pulmonary embolism. At necropsy the clinical diagnosis was confirmed and the source of the embolus was found to be a thrombus of the right femoral vein. In addition to well marked arteriosclerotic changes, there was considerable hemorrhage into the soft parts about the fracture site.

Case 2. The patient, a white man sixty-seven years of age, was injured in a railroad accident. The clinical diagnosis was fractures of the left sixth and seventh ribs and of the left femur. On admission the patient's temperature was 100.6 degrees, but fell to normal within three days. The pulse rate gradually rose from 90 to 130 per minute. While always in very serious condition he was thought to be improving, but died suddenly on the sixth day. The clinical diagnosis was pulmonary embolism. At necropsy the diagnosis was confirmed and in addition a crushing fracture of the sixth dorsal vertebra was found. There was con-

siderable hemorrhage about the site of the fracture of the femur. A thrombus was found in the left femoral vein below the site of the injury. There were well marked arteriosclerotic changes in the main blood vessels.

Case 3. The patient, a senile woman seventy-six years of age, fell in her home and when first seen a diagnosis of fracture of the left hip was made. In the hospital she made poor progress due at least partly to her mental condition. At first she complained of pain about the left hip but later it was localized in the leg and about the ankle. The patient's temperature ran between 97 and 100.4 degrees. The pulse rate was irregular and for one month varied between 80 and 130 per minute. One month after admission an x-ray examination showed the position of the fracture to be good and there was fair callous formation. During the last ten days in the hospital her pulse remained high and fluctuated between 120 and 130 per minute. She died unexpectedly eight weeks after admission. At necropsy the general clinical picture was confirmed. In addition the important findings were thrombosis of the left femoral vein; recent infarcts of each lung; a large embolus occluding the pulmonary arteries; bilateral pyelonephritis; cystitis and a diverticulum of the urinary bladder. Arteriosclerosis was marked in all the main arteries.

Case 4. The patient, a white woman seventy-four years of age, fell at home and when first seen a diagnosis of fractured hip was made. Upon admission an x-ray examination showed an intertrochanteric fracture. At that time the patient's temperature was 100 degrees. The heart was very irregular and digitalis was administered with some benefit. For ten days she made fair progress. On the eleventh day the pulse while irregular gradually ascended to 120 per minute. The patient died on the twenty-second day after the injury. At necropsy there was considerable hemorrhage about the fractured hip and along the left femoral vein. Each lung showed recent and somewhat older hemorrhagic infarcts, as well as a pulmonary embolus. The source of the emboli could not be found. The main blood vessels showed marked arteriosclerosis.

Case 5. A white woman, fifty-nine years of age, suffered fractures of the ascending and descending rami of the left ischium in an automobile accident. For two weeks her progress was normal, but she then complained of distress in the chest and coughed up blood tinged sputum. The pulse rate rose between 90 and 100 and the temperature rose to 102 degrees. A diagnosis of pulmonary infarction was made and under treatment the

symptoms gradually subsided. She appeared to be progressing favorably but died suddenly on the twenty-fourth day with signs typical of pulmonary embolism. At necropsy the clinical diagnoses were confirmed. In addition the site of the thrombus was found in the left femoral vein. There were very slight arteriosclerotic changes in the large arteries and a small carcinoma was found in the right breast.

Case 6. The patient, a white woman forty-nine years of age, suffered fractures of the left scapula, clavicle, humerus, and of the second to tenth ribs on the left side, in an automobile accident. She seemed to be progressing fairly well although her temperature fluctuated between 101 and 102 degrees, and the pulse rate which was irregular gradually ascended from 90 to 130 per minute. A diagnosis of left femoral thrombosis was made on the eighth day in the hospital. Ten days later the patient died suddenly with the clinical signs of pulmonary embolism. At necropsy the clinical diagnoses were confirmed and in addition a left purulent pyelonephritis was also found. The main arterial trunks showed a few fatty deposits beneath the intima.

COMMENT

All six patients were over forty-five years of age and in four, arteriosclerosis was marked. Three women were victims of automobile accidents, two fell at home, and the one man was injured at his work as a railroad engineer. There were four fractures of the femur, one of the ischium, and in the sixth there were multiple fractures about the left shoulder and chest. In addition all had bruising injuries and hemorrhages of the adjacent soft parts. The fatal emboli occurred on the third, sixth, eighteenth, twenty-second, twenty-fourth and forty-eighth days. The source of the embolus was thrombosis of the left femoral vein in four instances, the right femoral vein in one case, and in one instance the source was not determined. In four of the cases the thrombosis occurred in veins within the injured area. In one case (Case 6) the injury was about the left shoulder and chest wall while the thrombosis occurred in the left femoral vein. The latter is the exception to the general rule that the thrombosis occurs at the site of injury.

GENERAL DISCUSSION

Definition: In this paper the term pulmonary embolus refers to a wandering, ante mortem clot of sufficient size to obstruct the flow of blood through the pulmonary artery or its main branches. It does not include the smaller emboli which may reach the peripheral pulmonary arteries, result-

ing in pulmonary infarction. It should be emphasized, however, that the latter process is sometimes a forerunner of the former.

Incidence: In 1923 McCartney¹, reporting on a series of seventy-three cases of fatal embolism, found fifteen strictly posttraumatic cases and eight additional ones in which operations had been performed because of injuries. At that time he was able to collect 119 similar cases, making a total of 142. In 1935 the same author² again called attention to the frequency of traumatic embolism. He cited the following reports which had appeared since his previous paper:

Investigator	Year	Traumatic emboli	Total number of cases of pulmonary embolism
Lister	1927	12	281
Henderson	1927	5	313
Hoering	1928	10	131
Martine	1928	5	90
Miller and Rogers ..	1929	7	113
Sarafoff	1930	19	95

In his analysis of the necropsy records of the Department of Pathology at the University of Minnesota, McCartney found 1499 (15.3 per cent) deaths from mechanical injury in a series of 9781 necropsies. Of the 1499, 1174 were males and 325 females (a ratio of 3.6 to 1). For the entire series the incidence of pulmonary embolism was 2.8 per cent. In the traumatic group there were 61 cases of pulmonary embolism, an incidence of 4.0 per cent. The incidence in the non-traumatic group was 2.6 per cent. Of 283 deaths due to pulmonary embolism, 61 (21.6 per cent) followed trauma. In other words 15.3 per cent of the cases analyzed accounted for 21.6 per cent of the fatal pulmonary embolism. In our series of 465 necropsies there were eleven cases of fatal pulmonary embolism, five (45 per cent) being definitely post-traumatic and there was one other case which was doubtful. All investigators have noted the frequency of pulmonary embolism following fractures especially of the femur. McCartney also emphasized the increased incidence in women, 6.0 per cent as compared to 2.8 per cent for men. He believed this might be due in part to the greater incidence of varicose veins in women. In our series five of the six cases were females.

Etiology: Age is a factor in the production of thrombosis, probably because of poorer circulation. When an individual is over forty years of age, thrombosis is more likely to follow injury. Cardiac disease is also a definite etiologic factor and the arteriosclerotic type becomes progressively more important with age. Infection, local or distant, is also known to predispose to thrombosis.

Stagnation of the blood stream because of the injury or because of required immobilization and damage to the blood vessel wall, probably already sclerotic, are the most important etiologic factors especially in trauma to the lower extremities.


Diagnosis: The clinical picture of fatal pulmonary embolism is all too familiar to most physicians. The important diagnosis, that of the thrombosis preceding the embolism, is often a difficult one to make. Probably all are familiar with the textbook picture of thrombosis of the veins of the lower extremity. Unfortunately this is not the picture given in posttraumatic thrombosis. The first point in diagnosis is to anticipate the likelihood of thrombosis in a case of fracture or severe bruising in an elderly patient, especially if the patient is a woman. The symptoms and signs of the thrombus will frequently be obscured by those due to the injury and therefore must be sought for with unusual diligence. A shifting of the pain from the original site to some other portion of the affected part is common. Swelling of the ankle may be slight and will be detected only by exact measurements as compared to those of the normal ankle. The slight temperature or leukocytosis accompanying most thromboses is usually thought to be due to the injury in traumatic cases. Some workers have noted a rising pulse in cases of thrombosis, but apparently most clinicians are unfamiliar with this sign or attribute it to some other factor. In our series of cases of fatal pulmonary embolism as well as in non-fatal cases of thrombosis, the irregularly rising pulse was usually a striking and early sign indicating the thrombosis. It is our belief that in an elderly, bedridden patient with a rising pulse without evident cause, thrombosis, usually of the left femoral vein or at the site of injury, should be suspected.

Treatment: Embolectomy has been done under particularly fortuitous circumstances with fair results, but the usefulness of this procedure will necessarily be limited. Prevention of the embolism should be the aim of every doctor. Stimulation of the circulation, prompt immobilization of fractures with as little subsequent manipulation as possible, and avoidance of constrictions about the abdomen and extremities, are general factors that should be carried out in order to prevent thrombosis. If the latter occurs, early diagnosis is mandatory and the affected part, most often the left femoral vein, should be kept at absolute rest until organization of the clot has taken place (this usually occurs in from two to three weeks).

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STATE DEPARTMENT OF HEALTH



CARRIERS SPREAD TYPHOID FEVER

The cooperation of attending physicians and the State Department of Health makes possible the detection of many typhoid carriers. Whenever typhoid fever cases or positive typhoid agglutination titers are reported to the State Department of Health, letters and case record forms are forwarded to the attending physicians for detailed information.

If a member of the patient's family or other associate gives a history of typhoid fever in the recent or remote past, that person is suspected of being a typhoid carrier. The physician is asked to secure feces and urine specimens from the suspected carrier; these specimens are forwarded to the State Hygienic Laboratories at Iowa City where examination reveals whether or not typhoid organisms are present. When a person is demonstrated as being a typhoid carrier, this individual is placed under the supervision of the State Department of Health and is not allowed to prepare food to be used outside of his own immediate family.

During July, 1937, three Iowa persons were shown to be typhoid carriers. Detection of the first of these carriers occurred during an investigation begun when the State Hygienic Laboratories reported a typhoid agglutination titer of 1-640 on patient A. A case record form forwarded to the attending physician brought the following information: The patient's mother had "typhoid pneumonia" in 1907; the patient ate a meal prepared by X five days prior to onset of illness; patient's boy friend B developed typhoid two days prior to onset of patient's illness. Later, an agglutination titer 1-640 was reported on patient B. A letter to his attending physician brought the additional information that patient C had visited the patient's home on May 19 and had since developed typhoid fever. A representative of the State Department of Health visited the locality in which these cases occurred. It was learned that an uncle of patient B had died during childhood as a result of typhoid fever. Patient B had eaten several meals at the home of patient A prior to illness. The mother of

patient A attended a lodge meeting at home of patient B and helped serve lunch which the mother of patient B had prepared. Patient A did not attend the meeting. Patient C attended the meeting and developed typhoid fever ten days later. No organisms were found in specimens prepared by the mother of patient A. Typhoid organisms were found in all three feces specimens submitted by X, mother of patient B. This established the fact that X was a typhoid carrier; she was, therefore, issued instructions and placed under the supervision of the State Department of Health.

The second carrier was detected during an investigation requested by the attending physician in reply to a letter forwarded following report of agglutination titer 1-320 on patient D. The only other member of the patient's household was his housekeeper, who had come to the home four weeks prior to the onset of patient's illness. The housekeeper stated that she had never had typhoid fever and had not taken care of typhoid fever patients. However, the circumstances indicated that she was the possible source of infection and she was requested to prepare specimens. The State Hygienic Laboratories later reported that typhoid organisms were found in three specimens of feces prepared by her. She was thus proved a carrier and placed under the supervision of the State Department of Health.

Detection of the third carrier was begun following receipt of a positive agglutination titer. A letter forwarded to the attending physician brought the following information: Patient E was employed on a farm occupied by a family of which three of the four members had previously developed typhoid fever and the fourth member had received typhoid fever inoculations. The attending physician arranged for preparation of urine and feces specimens by those members of the family who gave a history of typhoid fever. Laboratory examinations revealed that the specimens prepared by the farmer's wife contained typhoid organisms. This report established the fact that this lady was a typhoid carrier.

The above instances emphasize the necessity for

determining whether any member of the patient's family or other associate gives a history of typhoid fever in the recent or remote past. If such a history is obtained, a carrier should be suspected and specimens of the bodily discharges of the suspected carrier should be examined to reveal whether typhoid organisms are present.

Modern sanitation and safeguarded milk and water supplies have lessened the occurrence of epidemics of typhoid fever. There has not been a water or milk-borne epidemic of typhoid in Iowa since 1935. However, in 1936 there were 141 sporadic cases and 36 fatalities as a result of this preventable disease. All cases, even those that are milk or water-borne, are due primarily to typhoid carriers. Prevention depends to a great extent on the detection, instruction and supervision of typhoid carriers.

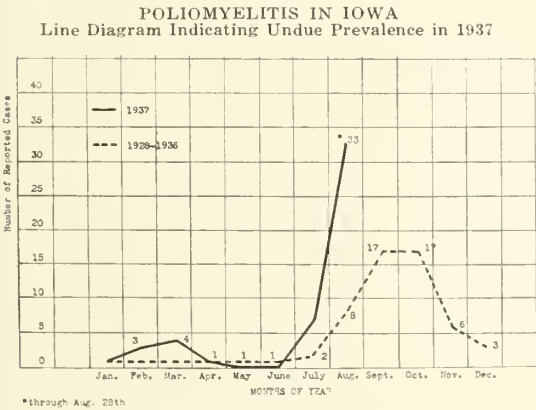
PREVALENCE OF POLIOMYELITIS IN IOWA

Undue prevalence of poliomyelitis is being experienced in Iowa at this time. This fact is indicated in the accompanying line diagram. The broken line represents the expected number for each month of the year, the figures being based on a nine-year average (tri-central median) for the period 1928-1936. The solid line designates the number of cases reported during each month of 1937. It will be noted that during August (through the twenty-eighth) reported cases numbered thirty-three, more than four times the normal or expected number. During the first seven months of 1937 (through August 28), forty-nine cases of polio-

myelitis were reported to the Iowa State Department of Health. The *Journal of the American Medical Association* (June 26, 1937, page 2182), contains two articles dealing with intranasal installations with zinc sulphate as a prophylactic measure against poliomyelitis.

DEPARTMENT OF HEALTH EXHIBIT AT STATE FAIR

Five activities of the Iowa State Department of Health were exhibited in the Educational Building at the Iowa State Fair, August 25 to September 3. In connection with the nationwide campaign and the department's new program to control syphilis, material was presented to bring out the immensity of this problem and the means of its control. The material included a moving picture and illuminated posters and charts. Another campaign of nationwide interest is that of the control of cancer. The American Society for the Control of Cancer showed an exhibit on this subject. The display was designed to arouse public interest in the ways and means of greatly reducing the suffering and deaths from this disease. The section on dental hygiene contained illuminated picturizations of the development and progress of pyorrhea, of tooth decay and of a root abscess. Due to the fact that premature birth is given as the cause of about one in three deaths in children under one year of age, a portion of the exhibit was devoted to that subject. The problem, the approach to its solution and the community's part were presented. Small replicas showed the special needs of a premature baby as compared with those of the full term baby. Items about the Dionne quintuplets were brought into the demonstration to illustrate the results of proper care of babies handicapped by premature birth. An illuminated cut-out map showed the status of approved water supplies throughout the state.



myelitis were reported to the Iowa State Department of Health, as compared with eleven cases for the first seven months of 1936. Convalescent poliomyelitis serum, which has possible value when administered in adequate amount in the preparalytic period, may be obtained from the Iowa State De-

PREVALENCE OF DISEASE				Most Cases Reported From	
	July '37	June '37	July '36		
Diphtheria	15	9	15	Des Moines, Butler, Polk	
Scarlet Fever	117	358	145	Polk, Woodbury, Black Hawk	
Typhoid Fever	14	13	5	Polk, Taylor, Van Buren	
Smallpox	111	108	48	Jasper, Wapello, Polk	
Measles	38	43	13	Dubuque, Black Hawk	
Whooping Cough	152	124	31	Des Moines, Warren, Boone	
Cerebrospinal Meningitis	7	1	2	(For State)	
Chickenpox	57	135	26	(For State)	
Mumps	12	36	44	Webster	
Poliomyelitis	7	0	1	(For State)	
Rocky Mountain Spotted Fever	3	10	0	Adams, Clarke, Jefferson	
Tuberculosis (Pulmonary)	44	77	42	(For State)	
Undulant Fever	11	14	6	(For State)	
Gonorrhea	216	220	159	(For State)	
Syphilis	299	306	94	(For State)	

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SEVERE DIARRHEA

At this season of the year diarrheal diseases become prevalent, and while the vast majority of cases are of a mild type, occasioning little or no concern for the victims, yet a certain number become severe resulting either in the death of the patient or in an alarmingly grave illness. Because of the mortality rate which continues to occur from the more severe types of diarrhea, although tremendously reduced over that of a quarter of a century ago, and because this issue of the JOURNAL carries an article by Dr. Hartmann in which a standard treatment is described for the restitution of the changes produced by diarrhea, which if effectively carried out has been shown capable of reducing the mortality rate in cases of this kind from around seventy per cent to as low as twenty or thirty per cent, the JOURNAL feels a timely opportunity is afforded to bring an important subject to the attention of its readers.

Not only has Dr. Hartmann contributed a method of treatment applicable in fluid and chemical disturbances in the body, but he was also one of the pioneer research workers who determined what changes occurred in the body as the result of severe diarrhea and how they are brought about. For instance, Marriott, Hartmann and Senn* in discussing the symptoms of "alimentary intoxication" or "intestinal toxemia," the terms usually applied to the clinical picture resulting from severe diarrhea, state that those symptoms "are the secondary results of disturbance in the chemical equilibrium of the body brought about as the result of loss of water, salts, and organic material by way of the gastro-intestinal tract, and that the development of the clinical picture of intoxica-

tion depends more upon the degree and severity of the diarrhea than upon the nature of the underlying cause. Any severe diarrhea, whether occurring as the result of enteral or parenteral infection, or other causes, may be associated with the development of symptoms of intoxication."

For purposes of discussion, the clinical changes entering into the picture of alimentary intoxication may be further subdivided into anhydremia and dehydration, acidosis, and toxicosis. Such changes may be present in various combinations in the individual patient, depending upon the severity and duration of the diarrhea, or in very severe prolonged cases all the changes may be present. Whenever loss of water from diarrheal stools exceeds in amount the utilizable intake, dehydration or desiccation of the body begins. Inter cellular and intracellular fluid provide a reservoir which tends to maintain a normal blood volume as long as possible, but with continued loss of water this supply becomes exhausted and anhydremia or concentration of the blood occurs. The decrease in the fluidity of the blood impairs the circulation, and lessens the urinary output, factors which contribute to the upsetting of the normal acid-base balance, which will be discussed later. From the clinical viewpoint, it is important that the symptoms of dehydration be recognized as early as possible. It is the onset of this condition which causes the patient to change from an attitude of lively interest to one of apathy. He no longer desires to be up and about, or if an infant, he ceases his usual active motions. The color becomes grayish, the tongue and mucous membrane are dry, and the skin lacks its usual resiliency. The eyes have a sunken appearance, and the pulse rate is fast. Urination is scanty. Loss in weight in an infant may be as much as a pound in twenty-four hours. Such a picture does not demand the giving of purges, enemas, and drugs, but the giving of water immediately and in sufficient amount to restore the blood volume and body fluids to the normal content. Furthermore, water administration must be continued by whatever route necessary to equalize the loss and maintain the supply in the body. Prompt recognition of the symptoms of dehydration at their onset may make it possible to restore body fluids by relatively simple means, such as hypodermoclysis of 500 to 1,000 cubic centimeters of sterile physiologic salt solution, thus preventing the further development of more serious changes in the body not so easily correctable.

Clinically, acidosis is recognized by the type of breathing. The deep, pauseless, "air hunger" type of respiration is an expression of the effort being made by the body to rid itself of excess acid. Several factors combine to bring about acidosis in

* Marriott, W. McK., Hartmann, A. F., and Senn, M. J. E.: Observations on nature and treatment of diarrhea and associated systemic disturbances. Jour. Ped., iii:181-191 (July) 1933.

severe cases of diarrhea and anhydremia. In the first place an actual loss of minerals occurs in the diarrheal stools, and since base ions predominate over acid ions in the intestinal secretions, the ultimate effect of diarrhea is a reduction in the bicarbonate content of the blood plasma. Normally the urine serves as one of the efficient mechanisms for acid-base regulation, by excreting excess acids neutralized by ammonium salts. However, as has been noted, in anhydremia the urine output is greatly reduced, so that this mechanism becomes ineffective and acids remain in the body to reduce further the bicarbonate content. Lactic acid collects in the tissues because of the impaired circulation and anoxemia, and ketonic acids may be formed as a result of incomplete combustion of the fats secondary to the partial starvation going on in severe diarrhea. These are the most important factors which combine to deplete the alkali reserve of the body, sometimes to such an extent that chemical analyses show the bicarbonate content to be less than one-fifth of its normal amount.

Patients with severe diarrhea may manifest only signs of anhydremia and acidosis, but frequently toxic symptoms are also present. These are chiefly fever and convulsions. Occasionally one sees a fulminating case of diarrhea in which the toxemia is so great that death results in a few hours from the toxemia. That patients presenting the picture of a full-blown alimentary intoxication are to be classed among the emergencies is obvious. Without prompt restitution of the fluid and chemical changes the prognostic outlook is extremely unfavorable, but with prompt and adequate treatment such as that suggested by Dr. Hartmann the lives of many of these desperately ill patients can be saved.

Since the details of the method of treatment together with the manner in which the changes are corrected, are clearly described by the author, repetition here is unnecessary. Sodium lactate, plus Ringer's solution, popularly known as Hartmann's solution, is available on the market in a concentrated form in ten and twenty cubic centimeter ampules. It is necessary only to add the designated amount of sterile water to make it ready for use. This type of solution is satisfactory for moderate cases of dehydration and acidosis. Molar sodium lactate is also available on the market in forty cubic centimeter ampules, from which the one-sixth molar strength can readily be constructed. In the severe types of dehydration and acidosis the latter solution is the sodium lactate-Ringer's solution. Technical difficulties of intravenous therapy, such as are encountered in infants and small children, should not be permitted to deter one from making use of this most effective route for supply-

ing the needed body materials. Exposure of the vein by cutting down on it is usually necessary in these younger patients.

The JOURNAL feels that Dr. Hartmann and the other investigators who have been responsible for establishing a clear understanding of the changes produced by diarrhea which lead to serious illness and death, and who have advanced a simple method of treatment for the correction of such changes, have made a splendid contribution to medical science. The application of this knowledge by an increasing number of physicians cannot fail to be reflected in a lowering of the mortality rate from this type of illness.

THE TRENDS IN MEDICAL EDUCATION*

E. M. MACEWEN, M.D., Iowa City

Some of you may wonder why I should presume upon your brief respite from a busy practice to discuss medical education. If this is true, let me state at once that medical education is a problem not alone for the faculties of the various colleges of medicine. It needs and merits careful consideration by all progressive members of the profession. The success of any school is measured by the quality of its graduates, and by the scientific attainments of its faculty. Constructive suggestions and criticisms are not only welcome, but are necessary for the success of any school. At no time in the history of our profession has this constructive co-operation of all medical agencies been more needed than at the present moment. The history of medicine and of medical education is familiar to most of you. In America, medical history has largely repeated the experiences of the more ancient nations.

By the seventeenth century medical education had reached a relatively high standard in Europe. Few, if any, of us could meet the requirements, especially in cultural training demanded of the medical graduate by the great schools at Leyden, London, or Paris in the seventeenth century. Rigid as this discipline was in Europe at the beginning of American colonization, the training was primarily of a theoretical nature and treatment consisted chiefly of bleeding and purging. In the early colonial days there were no trained physicians among the colonists. Large as the Mayflower has proved to be, there was no physician on it. True some of the ships had surgeons, but they were mere craftsmen, and not recognized by the physician, who must be a university trained man. The earliest

*Editor's Note—This address was presented by Dr. MacEwen, Dean of the College of Medicine, State University of Iowa, before the Upper Des Moines Medical Society, August 5, and we feel that the comprehensive and intelligent explanation of approaching changes in medical education merits the attention of every practicing physician in the state of Iowa.

practitioner in Massachusetts was one Deacon Samuel Fuller, an educated man but without medical training. The clergy and the colonial governors were called upon by the people during illness. This faith of the colonists in the educated few, was no doubt a major factor in the early foundation of educational institutions. Harvard was established in 1636. Physicians were sent to the colonies from England, but most of them refused to face the hardships and returned to Europe after a year or so. In the meantime the population was increasing. By 1700 Boston was a town of 7,000. The colonies had a total population of over 260,000. Yet, twenty-one years later Boston had ten physicians, only two of whom had medical degrees. With no medical schools in the colonies before 1765, and the passage to Europe long and expensive, the colonies were compelled to revert to the apprentice method of the days of Hippocrates. The student would select a physician, accompany him on his rounds, and usually after a period of six years receive a certificate to practice. Crude as this system was, and lacking most of the theoretical teaching of the European schools, it had one decided merit; it brought the students directly into contact with patients and disease.

The modern medical school is frequently criticized for the length of its course. If one compares the training of men in the pre-revolutionary period who really did things for medicine, such men as Morgan, Shippen, and Rush, we find that they spent many years in training. John Morgan might well be called the father of medical education in America. At the age of fifteen he entered the office of a prominent physician in Philadelphia and spent six years as an apprentice. At the same time he attended Franklin College receiving his bachelor's degree in 1757, at the age of twenty-two. He then spent four years in the army for further training in medicine and surgery, after which he went to Europe and studied for five more years at London, Edinburgh, Padua and other great centers. After over fifteen years of training he located in Philadelphia and was instrumental in organizing the first College of Medicine in the United States.

Following the Revolution a number of new medical schools were formed; Harvard in 1781, Yale in 1810, and soon others. The rapid expansion of the country, the lack of funds and poor transportation facilities made it impossible for many to attend these schools. Of necessity the apprenticeships increased; but since there were no medical regulations, similar abuses to those seen in the early days of medicine appeared. Anyone who desired to do so could claim to be a physician. Thus finally the colonies were compelled to set up certain standards. In passing it is of interest to

recall, that the growth of medical education in Europe dates to the early part of the thirteenth century when Frederick II, of the Holy Roman Empire, decreed that only graduates of the school at Salerno would be permitted to practice medicine. This was the impetus necessary to start other schools. In America various attempts were made to limit the abuses by local laws and penalties. Not, however, until some powerful agency took control was anything accomplished. This agency was the American Medical Association, which was founded in Philadelphia in 1847, primarily for the "cultivation and advancing of medical knowledge; elevating the standard of medical education; promoting the usefulness, honor and interests of the medical profession; enlightening and directing public opinion in regard to the duties, responsibilities, and requirements of medical men," etc. The formation of the American Medical Association really set the first general standards, requiring three years of study under a regular physician. The medical schools were required to have a two year course of twenty weeks, and the student must have had one additional year under a preceptor. Since neither the schools, nor the physician required any special educational qualifications for the apprenticeship little progress was made until late in the nineteenth century.

The history of our own College of Medicine closely parallels that of all others and of medical education in general. Organized in the late sixties, the first class was graduated in 1871. At this time there were no specific entrance requirements. The course consisted of two years of twenty weeks, and the second year was a repetition of the first. "To graduate, the student had to be twenty-one years of age, of unquestionable moral character, and must have engaged in the study of medicine for three years, under the direction of a physician in regular standing, including the attendance of two courses of lectures, the last of which must have been in this institution." In addition it was necessary for him to pass a satisfactory examination in all branches taught, and present a thesis in his own handwriting on some medical subject. In the fall of 1877 two courses were offered, the usual two year course, and a graduate three year course. The first entrance requirements were put in force in the fall of 1883, when all candidates "must give evidence of a good English education." A graduate of a college, academy or high school, was admitted without examination. All others were required to write a composition as a test in writing, spelling and grammar, and pass an examination in common arithmetic, United States history, geography and natural philosophy. The optional two and three year courses of twenty weeks continued

through the session of 1888-89. In the fall of 1889 the Board of Regents extended the course to six months and required attendance at three annual sessions. The entrance requirements were unchanged. In 1892 students were urged to take a special scientific course in the university, designed to prepare them for medicine in a more adequate manner.

In passing let me state that a financial disaster in 1888 played a major part in elevating the standards of medical education. Johns Hopkins, an eccentric old bachelor, left his fortune for the establishment of a free medical school for poor students. The mass of his fortune was invested in Baltimore and Ohio Railroad securities. The failure of these to earn a dividend in 1888 prevented the opening of the school, which was finally made possible in 1893 by a gift of \$300,000 by a Miss Garrett on the condition that only students having a degree in arts or science would be admitted. By 1893 the Association of American Medical Colleges, established in 1877, of which Iowa was one of the twenty-six charter members, was beginning to exert some pressure and we find Latin and algebra added to the entrance requirements and a limit set to the number of attempts a man might have to pass his subjects. In 1895 the course was extended to four years of six months affecting all students entering in 1897, so that the first four year class was graduated in 1900. In 1896 the minimum entrance requirement was graduation from a first grade high school or its equivalent. In 1897 the course was four years of twenty-six weeks, and a six year combined course of arts and medicine leading to the degrees of Bachelor of Science and Doctor of Medicine, was offered. In 1900 the Board announced that beginning with the 1902-1903 session the course would be extended to four years of thirty-six weeks each.

In the meantime the number of medical schools in America was rapidly approaching the 200 mark, many of which depended entirely upon tuition fees for their support. The number of medical students was almost 28,000. Each year saw hundreds of improperly trained physicians entering practice. Entrance requirements over the United States varied from almost nothing to a college degree. Repeated warnings from the American Medical Association were ignored. Realizing that something must be done to change this sad state, the American Medical Association in 1904 established the Council on Medical Education. A permanent secretary was appointed, who visited all the schools and filed his report with the Council. Two years later the schools were revisited. Certain standards were established and the schools were rated A, B,

or C. A storm of protest went up from the low rated schools. The American Medical Association was called a "Medical Trust." At this time the Carnegie Foundation for the advancement of teaching came into the picture. Dr. Abraham Flexner made an exhaustive survey of all the schools. His report to the Foundation in 1910 was more severe than that of the Council. Public opinion was aroused. The combined action of the American Medical Association, the Association of American Medical Colleges, and the State Boards of Licensure, established minimum requirements for acceptable medical colleges. These consisted of not less than 60 units of Liberal Arts training. These units were to include English, physics, biology, general and organic chemistry. Many schools were unable to meet these requirements. By 1920 the 160 schools of 1905 were reduced to 85; the total student body from over 26,000 to 13,780, and the graduates from 5,606 to 3,047. By 1929 the number of schools was reduced to 76. In 1922 an alarming annual increase began in the number of students being admitted to the 76 medical schools. So that by 1935 there were 22,888 or over 1,000 more than were in the 131 schools in existence in 1910. The total number of graduates were 5,101, or 661 more than in 1910, and almost as many as in 1905 from 160 schools; in other words, from 47.5 per cent as many schools as in 1905. The number of students in medicine and the number of graduates were about the same. In the meantime most of the medical schools had increased their entrance requirements, so that only 31 of the 77, the present number of schools, stated they would admit students with but two years of Liberal Arts training. Forty require three years, one requires four years, and five claim to require a degree, but only one of these adheres strictly to this requirement. Although on paper it appears that 40 per cent of the schools admit students on two years Liberal Arts preparation, actually only a very few accept this minimum. Included in this group are schools where very few without a degree are admitted; in addition they must be in the upper level of their class. In 1935 there were 6,352 freshmen admitted to the Medical Colleges of the United States and of these only 540 or 8.5 per cent entered with but two years Liberal Arts training. This is an average of less than 18 per school which state in their catalogue that two years is the minimum of acceptable work. To come closer home let us look at the class that entered the University of Iowa in September of 1936. We accepted 112 students in this class, and of these only 35 entered with but two years of Liberal Arts training. During the past three years there was a total of 300

new admissions to our College of Medicine. Of these only 97, or less than one-third, had the minimum training. When you consider, however, that less than 9 per cent of the total new admissions in our 77 schools were at this level, our 33 per cent is very high.

For the past few years we have repeatedly heard the following: "One of the most important problems now confronting the medical profession of this country is the over-crowding of the profession. This over-crowding is so great that it has become a menace both to the profession and to the public", and again, "We must elevate both the standards of scholarship and the standards of character and fitness to study and practice medicine." Equally alarming is the number of applicants for the freshman class each year. A total of 12,779 applied in 1934; 12,740 in 1935. The schools of the country can accommodate only 45 per cent of this number, and this 45 per cent is well beyond the facilities for properly training medical students. Another alarming factor is that six states, New York, Pennsylvania, Illinois, California, Ohio and New Jersey, representing about one-third of the population of the United States, furnish 51.5 per cent of the applicants.

That medical education has slipped during the depression is admitted by all medical educators. Because of this factor, and many others, the Council on Medical Education of the American Medical Association decided in 1934 that a new survey of all the schools was needed. Two years were spent in this survey which has resulted in a number of schools being placed on probation and required to make a complete reorganization. I am glad to state that your College of Medicine was not one of these. In all the others certain weak spots were noted. We were requested to correct these. We are interpreting this request on the army basis. Those of you who have had military experience know that a request from your superior officer becomes a command if it is not carried out. Two factors were called to our attention; first, that we had too many students for the number of instructors; and second, that more time should be given to the students for ward work. The latter was in the process of change at the time of the investigation and is now satisfactorily cared for. The other was more difficult. Two ways were open. We could either increase the number of the instructors, or reduce the number of students. The result of our appropriations from the last legislature made only one method possible; that of reducing the number of students. This must be continued until we have not more than seventy-five in each of our clinical classes. This reduction was made imperative by

the necessity of reducing the number of patients admitted to our hospital. The physicians of the state have objected to the number of patients being sent to the hospital. This has been especially true regarding obstetric cases. Few apparently realize that the American Medical Association has set a minimum of fifteen cases for each senior student if a school wishes to remain on the approved list. A senior class of ninety students requires a minimum of 1,350 obstetric cases. Our reduced finances and area to accommodate these cases will limit us to about 1,100 cases as the maximum we can receive, or about enough for seventy-five students. It is therefore necessary for us to begin limiting our admissions. This fall the limit is set at one hundred. This will ultimately be reduced to ninety. I realize this is going to cause some sore spots, but there is only one fair method of selection and that is upon a scholarship basis. This fall the one hundred applicants with the highest scholastic records will be accepted.

I realize how often the taxpayer complains of the high cost of medical education. There is no appropriation made by our legislature directly for medical education. There is one general appropriation for the university, and we get what we can out of this. True, if you divide the amount of money spent for the College of Medicine by 365, the number of students in the College of Medicine, the cost looks high. What you and the other citizens of the state do not know is that the College of Medicine is a service area for all the other departments of the University. Last year we gave all or part of their instruction to 1,800 students. In our classes were students from all the colleges on the campus except Journalism and Commerce. In certain of our preclinical departments 82 per cent of the teaching is to non-medical classes.

The question is also asked why it is necessary to raise the entrance requirements. On all sides there has been a demand that colleges of medicine add to the medical course certain subjects that properly belong on the academic side. Time and time again practitioners have stated to me, "You should add a course in business methods." Others have asked for courses in economics. All are agreed that the preparation of the physician has not kept pace with changing social conditions. The physician of the future must be prepared to meet entirely different problems from those confronting us who were graduated twenty or more years ago. It is now definitely recognized that all general practitioners must be, in some degree, psychiatrists, that knowledge of sociology and psychology is as essential as the mastery of some

of the other basic sciences. Again the present premedical course does not meet the desired preparation. Worse, however, is the fact that the student finishing this course is unable to adjust himself to other fields. It is entirely a one-sided preparation. Most of the subjects mentioned above have no place in a medical school. No one in the school is prepared to teach them. Why not give the student an opportunity to elect economics, business law, psychology, sociology and other cultural subjects? In the addition of another year we are stressing that we do not want more chemistry, biology, or physics. I feel that in most cases we demand more of some of these than is absolutely needed at our present level. It is also hoped that with this additional year students will enter college with an open mind, that they will so select their courses that they meet the requirements of many fields. I hope ultimately that most of them will enter with no set notion of being a doctor or a lawyer; but that after a broad sampling they will select their final field.

Statistics show positively that the grades obtained in college correlate closely with the results in professional schools. If a student is poor in Liberal Arts, he will be poor in medicine; if excellent in Liberal Arts, he will make a good record in medicine. Our figures agree with those of all other medical schools. Last year I stated that we accepted 35 two year students in the College of Medicine. Thirteen or 37 per cent of these are not eligible to enter the sophomore class. Out of a class of 112 only 85 came through with a clear record. Our reason for raising our standards is primarily to do away with this loss of time and money to between 30 to 40 per cent of our entering students. This condition is not peculiar to Iowa. Less than 70 per cent of the students entering medicine are graduated with their class. If the results of the last few years mean anything, only eighty-five to ninety of the students admitted to our freshman class were qualified. If this experience is true we are not working a hardship, but really doing a favor to the student with low scholarship, a favor not only to him, but also to his parents. Do you realize that only fifteen schools in the United States have been admitting as many students as we have at Iowa? Do you know that only one school in New York State, New York University, admits as many? Columbia, the largest university in America admits fewer. Cornell admits 78; Yale, 58; Johns Hopkins, 69; Washington, 83; California, 61; Stanford, 60; etc.

To summarize then the trends in medical education, we must:

1. Require a broader preliminary education, so

that the physician can meet changing social conditions.

2. Graduate fewer but better trained physicians; this to be accomplished through higher admission standards, and reduced numbers so that each student can get better personal supervision.

3. Arrange closer contact with patients during the clinical year.

4. Eliminate non-essential materials, and duplication of courses.

5. More closely correlate both the pre-clinical and clinical courses.

You ask what you can do about this, and I reply, much. The hospital and the medical school at Iowa City, were established primarily to train physicians for the state of Iowa. It never was intended, and never should be demanded that we care for all the indigents in Iowa. We should render a sufficient service to each county to compensate for the support they give us. We should be an area where the physicians of Iowa can have an opportunity to learn new procedures, and get assistance when needed. Certain types of equipment that cannot possibly be found in smaller hospitals, should be available for services to patients in need. I refer to such apparatus as the "iron lung" and similar expensive equipment. You in return must see that we are supplied with ample material both quantitative and qualitative to train these boys. I hope I have not bored you, but I could not resist this opportunity to explain the reasons for certain changes. Please remember we are only carrying out the suggestions of the American Medical Association, and that in the final analysis *you* are the American Medical Association.

III. CARDIAC SURGERY*

Surgeons are the knights of the medical profession. In their boldness they have at times performed operations which might better have been left undone, but this very boldness has transformed the chirurgical miracles of yesterday into the routine surgical operations of today. As late as 1896 Sir Paget¹ wrote: "Surgery of the heart has probably reached the limit set by nature to all surgery." Since that time, however, surgeons have attempted to cure high blood pressure by surgical operations, have performed total thyroidectomies for congestive heart failure and angina pectoris, have attempted to relieve stenosis of the mitral and aortic valves, and have even produced a collateral circulation for hearts with occluded coronaries. Verily the modern surgeons lack neither courage nor skill.

*Editor's Note.—This is the third in a series of editorials, prepared by Dr. Daniel J. Glomset on modern cardiac therapy. Parts I and II appeared in the July and August issues of the Journal.

The object of this discussion is an attempted evaluation of the results obtained from surgical treatment of non-accidental diseases of the heart. In 1909 Jonasco acted on earlier suggestions of Franck to relieve angina pectoris by severing the cervical sympathetic connections of the heart. Since that time, Jonasco's operation has been modified and extended in different ways by various operators. These operations are formidable affairs, and are associated with a considerable mortality rate (seven to fourteen per cent). None of them has produced relief in anything approaching one hundred per cent of the cases. Therefore, it would seem that these procedures have no legitimate place in cardiac therapy.

Saxt in 1916 first practiced paravertebral alcohol injection into the dorsal nerve roots for the relief of the intractable pain of angina pectoris. In this country James White² of Boston apparently has had the most experience with this form of therapy. The operation is difficult technically, is associated with an annoying local neuritis, and sometimes with pleuritis; but according to White a successful operation gives one hundred per cent relief. Because of the striking benefit observed from subtotal thyroidectomy in patients with congestive heart failure and hyperthyroidism, Samuel Levine in 1926 suggested subtotal thyroidectomy for certain cases of congestive heart failure that did not yield to other forms of cardiac therapy. The operation was soon changed to total thyroidectomy and extended to intractable cases of angina pectoris. The procedure became popular in certain quarters because it seemed rational, and involved a technic that was familiar to all competent surgeons. Recent literature contains the reports of many cases of congestive heart failure and angina pectoris that have been treated by this procedure.

The conclusions of some operating surgeons as to the effect of total thyroidectomy are optimistic. However, if the reports of Blumgart, Levine and Berlin³, for instance, are scrutinized with an impartial eye, it is difficult to share this optimism. Any evaluation of a form of treatment must take cognizance of the natural course of the pathologic disturbances under treatment. The favorable results reported from sympathectomy and from total ablation of the thyroid gland may well be due to natural fluctuations of the symptoms which occur in angina pectoris and congestive heart failure. If we add to this the high mortality rate and the outright failure of surgery in a definite percentage of cases, it would seem that one is justified in concluding that the value of such operations has not been fully established. On the other hand, paravertebral injections of alcohol for angina pectoris might well be tried in those very rare cases where

the patient's life is a continuous torture because of heart pains that do not yield to any other form of treatment.

Surgical attempts at the control of hyperpiesia apparently grew out of the reported relief of abnormal arterial tension which followed the removal of suprarenal tumors. During the last decade unilateral suprarenalectomy, laminectomy with severance of the last dorsal and first lumbar rami communicantes, as well as severance of the splanchnic nerves, have been performed by a number of surgeons. A critical analysis of the reported results leads one to the conclusion that it is safest to await further developments before recommending such procedures.

The operations which have been performed on the heart itself elicit both amazement and admiration. The dream of relieving aortic and mitral stenosis by cutting away the obstructing leaf tissue has actually been attempted. However, Cutler's⁴ experience has been disappointing so far.

The most recent achievement in cardiac surgery is the establishment by Beck⁵ of a new collateral circulation for areas of the myocardium with curtailed blood supply. This is as ingenious a procedure as the operations on the heart valves. This brilliant surgeon first exposed a dog's heart. He sutured parts of the pectoral muscle to the heart wall, then tied off the coronary supply to the myocardium, and succeeded in maintaining an adequate circulation to the affected heart muscle. He has also successfully performed this operation on a small number of human beings. It is fervently to be hoped that the scar tissue which inevitably forms after such operations will not choke the new blood channels.

Finally, there are surgical measures designed to relieve mechanical obstruction due to lesions of the pericardium. Regardless of whether this interference is due to serous or purulent fluid, to ordinary fibrous adhesions, or to a calcified pericardium, surgical intervention is indicated, and the results are often lifesaving. Whenever fluid accumulates in the pericardial sac to such an extent that the heart is perceptibly embarrassed, paracentesis is indicated. The diagnosis is made on the presence of dyspnea, cyanosis, rapid pulse, distant heart sounds, shifting cardiac dullness, and most of all on fluoroscopic and roentgenographic evidence.

Under local anesthesia a large spinal puncture needle with an obtuse point is introduced into the pericardium just at the left border of the heart in the region of the apex. The needle is carefully pushed inward with the tip of the index finger on the head of the stylet until the apex impulse is felt faintly, but distinctly. Then it is pulled back a millimeter or so and the stylet is withdrawn. If

no fluid is obtained, gentle suction is applied with a syringe. This performance is repeated until fluid is recovered. If the fluid is clear, enough is taken to relieve the patient. Even if it is purulent, enough is withdrawn to bring about relief. When pus is present, adequate surgical drainage is instituted as soon as possible. The pericardium may be entered by going in from below, to the left of the xiphoid, or to the left of the sternum just clear of the mammary artery, or even to the right of the sternum. The region at the apex is admittedly the best place for the initial puncture. The ultimate prognosis in cases of serous pericarditis depends on the cause. The immediate results are often most gratifying to the patient. In purulent pericarditis, recovery takes place in over fifty per cent of the cases.

One of the real triumphs of modern cardiology is the successful diagnosis and surgical relief of constricting chronic pericarditis. The operation of cardiolysis was first performed by Brauer in 1902. Since that time, the operation, with or without minor modifications, has been performed by many surgeons. The blue, waterlogged cardiac cripple becomes an efficient, useful member of society almost overnight.

Surgery upon the heart which was considered impossible a few years ago is now performed as a matter of course, and is a safe and efficient therapeutic procedure in the form of paravertebral injection in rare cases of angina pectoris, in the removal of both serous and purulent fluid from the pericardium, and in the relief of obstructive chronic pericarditis.

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RURAL RESETTLEMENT PROGRAM IN IOWA

Members of the Iowa State Medical Society who in their practice have come in contact with clients of the Rural Resettlement Administration and who have been puzzled by the lack of a definite policy in regard to the payment of fees for their services to such patients, will be gratified to learn that the Medical Economics Committee has formulated a general plan for the medical care of this group of families. Since the burden of this problem is not felt to the same extent in all sections of

the state, the plan is recommended for adoption only in those counties in which the present lack of policy seems to be working a real injustice. In order that a better perspective of the entire situation may be gained, a brief history of the resettlement problem is outlined here.

In the minds of the majority who hears the expression "rural resettlement program" there immediately springs a picture of poor unfortunate farm families transported by the government from lands laid waste and barren by drought, dust, hail, insects or flood, to more fertile acres from which they may expect to wrest a living for themselves. Fortunately, in Iowa this grim aspect of the problem has never been experienced. The rural resettlement program here has been one of rehabilitation. This rehabilitation program has been one of providing destitute and low income farm families with funds with which to re-establish themselves economically and socially. The farmers who are eligible to become clients of the Rural Resettlement Administration are those who need financial assistance, but who are unable to get credit from any source other than the government. There are only two possible solutions to their problem. They can liquidate what they have, come into town and be put on the regular relief rolls or they can borrow enough money to enable them to buy what additional equipment (in the way of machinery, livestock, feed, seed, etc.) they require in order to be able to make a subsistent living. The government has been operating this rehabilitation program on the basis that it is much more practical and desirable in the long course of events to provide these farmers with the necessary supplies to enable them to make their own living, than to add them to the vast army of the unemployed and to the overcrowded relief load in the country.

Not the same type of assistance is offered to all clients of the Rural Resettlement Administration. Supervisors of the organization, working in close cooperation with the proper local authorities carefully check the needs of the various applicants, outline and supervise their rehabilitation plans, and offer the type of aid which seems most suitable for the family in question. The Administration has three types of clients. The first are those families to whom outright grants of money are made; these grants need not be repaid. These families cannot qualify for complete rehabilitation but need some assistance in order to subsist and to them are given these grants for direct relief. After this fall, the Rural Resettlement Administration does not expect to be responsible for the medical care of this type of client. A second class of clients is composed of those to whom small amounts of money are loaned for the specific pur-

pose of buying feed or seed. This aid is offered in the form of loans over an eighteen months' period. It is expected that with favorable conditions, these families will become self-supporting and the Administration is not responsible for medical care for this group. The standard program of the Administration is centered on a third class of clients to whom standard five year loans are made, ranging in amounts from three hundred to fifteen hundred dollars, with seven hundred dollars as the average loan. These are the loans which are made for the purpose of enabling the farmers to buy equipment, supplies, stock and even land which the applicant may need to re-establish himself as a self-sustaining citizen. It speaks well for the Administration in their selection and supervision of these families that to date eighty-nine per cent of the payments on these loans have been made on time.

It is this last group of clients that constitutes a problem insofar as their medical care is concerned. While the original plans and laws of the Administration made no provision for medical service for its clients, it was soon recognized that good health is an essential factor in permanent economic improvement or rehabilitation and that these clients, in order to repay their loans, must be kept in good physical condition. The Rural Resettlement Administration consequently sought a means of providing such care. The first plan advanced and probably the one which has attracted most widespread publicity, was the creation of a corporation or cooperative organization, through which medical service and other aids would be extended. This plan was adopted in North Dakota but was viewed with such disfavor by other medical associations that it has been avoided in most other states. However, the extent of the problem in the Dakotas and some of their neighboring states, in which the great majority of families were Rural Resettlement Administration clients, made the situation a grave one, and the medical profession in those states felt justified in dealing with it in the manner in which they did. Because of the universal interest manifest in the North Dakota plan, the paper by Dr. Brandes of Bismarck, North Dakota, which follows this editorial will be of decided interest. A more loosely organized plan, binding the profession to provide services to Rural Resettlement Administration clients at a flat fifty per cent reduction in the usual fees was offered as a substitute plan in other states.

Early in 1937 the state medical associations in that district of the Rural Resettlement Administration of which Iowa is a part were contacted by representatives of the Administration and asked to work out some plan which would insure Rural

Resettlement Administration clients adequate or nearly adequate medical care for which service the physicians would be remunerated. The Northwest Medical Conference afforded an unusual opportunity for the representatives of these states to discuss this problem together. Several joint and individual conferences followed and within the past few months a very similar program has been adopted by the medical associations in Missouri, Indiana, Ohio and Iowa. The plan recommended by the Medical Economics Committee of the Iowa State Medical Society is based very closely on that of Ohio, modified to meet local needs. It is felt that this plan strikes a moderate balance between the other two plans discussed, and in Iowa at least sets up the minimum fee schedule of the Society as the basis for all medical service, yet leaves it to the discretion of the individual physician to do as he does for his other patients, adjust his fees in accordance with the ability of the family to pay.

Before formally adopting a plan for Iowa, the Medical Economics Committee submitted questionnaires to the county societies in an attempt to gauge the extent of the problem in this state and to ascertain the wishes of the county societies in regard to the formulation of a plan. The scattered replies indicated that the medical care of these clients is a problem in only a small number of counties. However, those few did urge that some well conceived plan be adopted. In recommending to these few counties the plan outlined below, the Medical Economics Committee reiterates its stand that in this problem, as in all plans for the medical care of any group of individuals, the ideal solution is to handle the matter locally. If that cannot be done, as is done by the family physician who waits for his fees until his patient is able to pay, the plan given below will be of help.

A. The Iowa State Medical Society will cooperate with and assist the Resettlement Administration in an effort to supply Iowa clients of the Administration with adequate medical care and will recommend to the component societies that they do likewise, providing the principles and procedures enumerated in Paragraph B of this report are accepted and adhered to by the Resettlement Administration.

B. Any program to provide medical care for clients of the Resettlement Administration in Iowa shall include the following basic features:

1. Such program will be made available only to those low income farm families which are bona fide clients of the Resettlement Administration.

2. Negotiations for the formation and administration of a medical program in each county shall be carried on by the Resettlement Administration with the county medical society, which will act for the medical profession of the county in working out a joint agreement on all phases of the medical program to be developed for Resettlement Administration clients residing in that county.

3. Control of medical service shall be exclusively in the hands of the county medical society and each

client shall have the right to select the physician of his choice among physicians who are willing to take part in the medical program developed locally.

4. The county medical society will advise the county Resettlement supervisor of the physicians who have agreed to participate in the medical program. The supervisor in turn will furnish the county medical society with the names of the Resettlement Administration clients in the county and from time to time furnish it with revised lists; he shall advise clients of the names of physicians who are willing to participate in the program; he shall give to each client who has borrowed funds which include enough to provide for medical service a memorandum showing that the recipient is a Resettlement Administration client and such memorandum shall be submitted to the physician selected by the client.

5. Physicians participating in the program will be expected to furnish Resettlement Administration clients and their families the services usually rendered by a family physician at such fees as the families are able to pay. Agreement as to fees shall be worked out jointly by the client and the physician. The basis for all fees shall be that of the minimum fee schedule of the Iowa State Medical Society, with the exception that a specified maximum fee for all surgical operations shall be agreed to by representatives of the Resettlement Administration and each county medical society. Services shall consist of home and office visits, including obstetric care and ordinary drugs. It will not include major operations and hospitalization nor expensive biologicals. It is understood that the Resettlement Administration will endeavor in individual cases to secure funds, either through grants or additional loans for unusual medical cases, emergency surgical cases and hospitalization. The county medical society shall determine when cases fall in these categories.

6. An auditing committee of the county medical society shall pass on all bills rendered. Such bills shall be approved by the Resettlement Administration without cuts. Controversies concerning bills for medical services shall be referred to the county medical society for adjudication by the committee designated for that purpose or any other proper agency of the society. Questions which cannot be settled locally shall be referred to the Committee on Medical Economics of the Iowa State Medical Society for review.

7. In making loans, the Resettlement Administration will endeavor in all instances to have the client include an amount which can be used by him for the payment of medical services under the conditions specified in the medical program worked out jointly with the county medical society.

8. Since the Resettlement Administration program is an emergency project, the terms and conditions of the joint agreement worked out between the Administration and the county medical society may require periodic revision. Therefore, it is suggested that frequent conferences be held by the local supervisor and the officials of the county medical society to modify the medical program to meet new and unforeseen conditions and situations.

The foregoing plan has been approved by the Executive Council, and is now in the hands of the Rural Resettlement Administration for official acceptance before it will be offered to any county society. It should be borne in mind that a county society need adopt the plan only upon the vote of its own members. The accompanying table, showing the number of clients in each county, will give some indication as to whether or not any

real need for a plan of this kind exists in any given county. If it is adopted, it will prove workable and satisfactory only if it has the genuine and whole-hearted cooperation of every member who takes part in it. Questions about any detail will be gladly answered by the members of the Medical Economics Committee or by the central office of the State Society.

Number of Families Receiving Aid from Rural Resettlement Administration, as of June 30, 1937

County	Outright Grants	Feed and Seed Loans	Standard Loans
Adair.....	111	12	71
Adams.....	45	23	40
Allamakee.....	7	0	27
Appanoose.....	239	35	87
Audubon.....	55	47	40
Benton.....	1	0	15
Black Hawk.....	9	0	46
Boone.....	8	1	23
Bremer.....	3	0	25
Buchanan.....	12	0	21
Buena Vista.....	1	5	5
Butler.....	9	2	17
Calhoun.....	0	1	13
Carroll.....	45	10	20
Cass.....	21	36	29
Cedar.....	1	0	6
Cerro Gordo.....	2	0	18
Cherokee.....	58	97	12
Chickasaw.....	5	0	17
Clarke.....	207	60	87
Clay.....	1	4	20
Clayton.....	0	0	19
Clinton.....	1	0	10
Crawford.....	400	74	64
Dallas.....	4	0	24
Davis.....	138	45	89
Decatur.....	392	48	77
Delaware.....	13	0	18
Des Moines.....	18	1	20
Dickinson.....	7	3	18
Dubuque.....	11	0	31
Emmet.....	0	1	11
Fayette.....	7	0	76
Floyd.....	6	0	11
Franklin.....	4	3	23
Fremont.....	196	9	21
Greene.....	14	7	50
Grundy.....	0	0	6
Guthrie.....	103	20	84
Hamilton.....	3	1	23
Hancock.....	0	0	15
Hardin.....	0	0	6
Harrison.....	689	525	65
Henry.....	17	1	30
Howard.....	2	0	14
Humboldt.....	0	0	19
Ida.....	362	290	31
Iowa.....	10	0	59
Jackson.....	5	0	13
Jasper.....	10	2	38
Jefferson.....	112	52	69
Johnson.....	5	1	41
Jones.....	1	0	8
Keokuk.....	61	28	88
Kossuth.....	0	0	4
Lee.....	28	0	25
Linn.....	1	0	18
Louisa.....	0	0	13
Lucas.....	335	61	100
Lyon.....	83	24	5
Madison.....	152	31	112
Mahaska.....	98	32	129

County	Outright Grants	Feed and Seed Loans	Standard Loans
Marion.....	79	35	96
Marshall.....	3	0	23
Mills.....	135	20	25
Mitchell.....	6	1	17
Monona.....	441	297	25
Monroe.....	255	34	125
Montgomery.....	28	18	34
Muscatine.....	2	2	63
O'Brien.....	1	4	0
Osceola.....	0	0	3
Page.....	76	25	24
Palo Alto.....	1	0	39
Plymouth.....	371	425	32
Pocahontas.....	6	3	42
Polk.....	2	2	44
Pottawattamie.....	353	194	42
Poweshiek.....	15	5	56
Ringgold.....	516	146	72
Sac.....	132	46	12
Scott.....	1	0	12
Shelby.....	169	203	16
Sioux.....	47	100	12
Story.....	4	2	70
Tama.....	0	0	8
Taylor.....	235	63	68
Union.....	198	84	56
Van Buren.....	170	40	52
Wapello.....	141	63	77
Warren.....	129	26	80
Washington.....	20	5	43
Wayne.....	271	100	107
Webster.....	6	1	32
Winnebago.....	3	0	15
Winneshiek.....	15	0	22
Woodbury.....	718	781	49
Worth.....	0	0	14
Wright.....	7	0	25

THE NORTH DAKOTA PLAN*

H. A. BRANDES, M.D., Bismarck, North Dakota

That you may better understand the medical relief set-up in North Dakota, I shall review briefly the events which brought the Resettlement Administration into the medical relief program in our state. Adverse farming conditions over a period of several years, made worse by the disastrous drought of last year has brought about a situation where we now have about one-half of our population on relief. North Dakota has a population of approximately 625,000.

When the FERA in North Dakota went out of business the early part of 1935 the State Public Welfare Board, created by an Act of our 1935 legislature, assumed responsibility for providing medical care to all relief clients, including those on WPA and later the Resettlement clients. This arrangement continued until September of last year, when the Public Welfare Board found it could no longer furnish medical care to WPA and Resettlement clients, because of the increasing demands for relief and the lack of funds. This created a very serious situation with winter coming on and no definite program to provide medical attention

for the farm population on relief. It was at this point that the Resettlement Administration recognized the need for making some provision to furnish medical care to the 30,000 families on Resettlement rolls.

Our first contact with the Resettlement Administration was through their medical director, Dr. R. C. Williams of the United States Public Health Service. He came to the state in the latter part of August, 1936, to study the situation and to confer with the State Medical Association's Committee on Medical Economics. Out of this meeting and two later conferences, the present set-up for medical care to Resettlement clients was formulated. The Resettlement Administration adopted without change the relief plan and fee schedule which we had submitted, but we found that in order to secure federal funds it would be necessary for us to deal with the Resettlement Administration through a cooperative agency or organization. We were informed that the Act under which the Resettlement Administration was created made no provision for the direct payment of fees to the physician and that there were but two ways in which funds could be made available for medical care: first, by additional or supplemental grants to the relief client with the physician collecting his fees from the client; and second, through a co-operative association under a loan agreement with the Resettlement Administration. Our efforts to secure the same arrangement for the payment of medical bills, as we had under the FERA and as exists with the State Public Welfare Board, proved unsuccessful. Realizing that it was necessary for us to take immediate action to get federal funds into the state to provide for our people and to give assistance to our physicians, especially in the smaller communities, we decided to take our chances with a cooperative rather than with the individual client. We felt that under the peculiar conditions which exist in the practice of medicine in our state and the present attitude of many of our farmers, the physician would find it difficult to collect from the client. Of course, we do not approve of medical cooperative organizations but under the present arrangement the physician knows that when he treats a relief client he will be paid for his services on an agreed schedule of fees.

One advantage with the present set-up is that all medical relief is administered through the County Welfare Boards and this arrangement simplifies matters for the physician. The procedure for authorization forms, submission of bills, etc., is the same for both organizations. (Welfare Board and North Dakota Farmers Mutual Aid Cooperative and WPA). The only difference is that for serv-

* Presented before the Eighth Annual Northwest Medical Conference, Chicago, February 14, 1937.

ices rendered Resettlement clients the physician receives a check from the North Dakota Farmers Mutual Aid Corporation. The articles of incorporation of the North Dakota Farmers Mutual Aid Association were filed with the Secretary of State (North Dakota) on October 8, 1936, and eleven days later the officers of the North Dakota Medical Association subscribed to the understanding which reads as follows:

Whereas, The North Dakota Farmers Mutual Aid Corporation has been organized under the laws of the State of North Dakota for the purpose of affording Emergency Medical Care to its members, and

Whereas, In effectuating the program of the said corporation it is necessary and desirable that a schedule of fees be formulated for the guidance of the corporation and such physicians as may render services to the members thereof upon the issuance to such physicians of requisitions for emergency medical care signed by a duly authorized county representative of the corporation, and

Whereas, The North Dakota State Medical Association is an organization representative of the physicians of the state of North Dakota, and therefore qualified to cooperate with the corporation in the formulation of a fair and reasonable schedule of fees to be charged the corporation for the services rendered its members at its request,

Now, Therefore, Be It Understood and Agreed as follows:

1. This understanding is not a contract between the North Dakota Farmers Mutual Aid Corporation and the North Dakota State Medical Association, but is merely an understanding between the corporation and the association which may be incorporated into the individual contracts between the corporation and the physicians rendering services to the members of the corporation by reference thereto in the requisition for medical care issued by the corporation for such services.

2. The following is the schedule of fees set by understanding between the corporation and the association for medical and surgical services to be rendered to standard and emergency grant clients of Resettlement Administration for the period of one year from date.

Now a word about the Articles of Incorporation. The Articles are drafted along broad lines and if carried out would prove vicious and far-reaching in their effect on the practice of medicine. This is unfortunate because we have been assured that it is not the intention of the Resettlement Administration to exercise the powers granted in the Articles. As we see it at this time the corporation was formed to get around the legal obstacles in the Resettlement Administration in order to get money into the state for medical care, and not for the purpose of initiating a new form of medical practice. In this we may be entirely wrong in our premises. We do not believe that the North Dakota Farmers Mutual Aid Corporation will be perpetuated after the Resettlement Administration withdraws its financial support. Past experience with similar cooperative or mutual aid societies in our state has shown that they do not survive because our farmers do not support them. To save

time I shall attempt to bring out the more important features of the plan of the cooperative organization with the question and answer method.

Q. Who is eligible to membership in the cooperative organization?

A. Membership is limited to standard and emergency grant clients. No membership fee is required.

Q. What services are provided the client?

A. It is contemplated that only emergency medical or dental care will be furnished. This is interpreted to mean only such medical care as is necessary to treat acute illness or acute recurrence of chronic conditions of such nature as to cause acute suffering, interfere with earning capacity, endanger life or threaten some new permanent handicap that is preventable when medical care is sought. The term "acute illness" shall include obstetric care and, where possible, an agreed minimum of prenatal visits or examinations, delivery in the home, or hospital when necessary, and necessary postnatal care.

Q. Has client free choice of physician?

A. Yes. The physician-patient relationship is maintained.

Q. Who are the officers and directors of the cooperative organization?

A. Four employees of the Resettlement Administration and a physician. The latter acts as medical supervisor. Articles of Incorporation provide for delegates from each county to meet in Bismarck and elect directors.

Q. How was the medical supervisor selected?

A. On recommendation of the State Medical Association.

Q. What are the duties of the medical supervisor?

A. To check over the bills submitted by the physicians, dentists and hospitals. Medical bills disapproved may on request of the physician be referred to the district or county medical advisory committee for reconsideration.

At the present time there are 32,500 families on Resettlement rolls in our state. This does not include the families receiving relief from the Public Welfare Board nor the WPA clients. It is estimated that there are now approximately 60,000 families on relief. From these figures you can realize that our medical relief program in a state so sparsely settled is a big one. There are some who may criticize us for not acting wisely in our efforts to solve our medical relief problem, but under the acute and trying conditions that prevail in our state we feel that we are at least helping our people and our doctors through a hard winter, and in doing so I hope we have not advanced the cause of state or socialized medicine.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Board of Trustees
State Society Office, Des Moines
August 25, 1937

The Board of Trustees of the Iowa State Medical Society met in the central office in Des Moines on Wednesday, August 25, 1937, at 1:30 p. m.

Roll Call: All members of the Board were present. Others in attendance were: Robert L. Parker, secretary, Des Moines; E. M. Myers, president, Boone; Fred Moore, chairman of Legislative Committee, Des Moines.

Transactions: 1. Approval of bills. 2. Decision of the Board to award the 1938 contract for the printing of the JOURNAL at this time in order to allow the printing company to order paper stock before advance in price. 3. Board voted to renew the contract now held with the Wallace-Homestead Company of Des Moines. Slight increase due to cost of labor and material in past year. 4. Review of publicity material pertaining to the nationwide campaign against syphilis. The Board, as the Committee on Publication, voted that this should be included on the Speakers Bureau page of the JOURNAL, as part of its regular educational program. 5. Discussion of the Council recommendation that Dr. Glomset, chairman of the Speakers Bureau for the past seven years receive some remuneration. Board voted to give Dr. Glomset an honorarium of \$700.00, which is to include all his traveling expenses in connection with Speakers Bureau work outside the state of Iowa. 6. Board voted that if any organization or company wanted to engage the services of one of the members of the Iowa State Medical Society, that the matter should be brought to the attention of the Executive Council before it is done. 7. Authorization of the purchase of a projection lantern for the Iowa State Medical Society. 8. Board authorized the purchase of a new mimeograph machine to replace the old one. 9. Rejection of proposal to become a member of the Iowa State Safety Council. 10. Trustees voted to provide the Library of Congress with bound volumes of the Iowa State Medical JOURNAL for 1935 and all subsequent bound volumes. 11. Acceptance, with regret, of the resignation of the executive secretary, Miss Dorothy M. Nelson, to be effective October 1, 1937. 12. Decision of the Board to leave the matter of the appointment of a successor to the position of executive secretary for future consideration.

Executive Committee of the Cancer Committee
State Society Office, Des Moines
August 30, 1937

The Executive Committee of the Cancer Committee of the Iowa State Medical Society met with Dr. F. L. Rector, district representative of the American Society for the Control of Cancer, and Mrs. M. C. Hennessy of Council Bluffs, recently appointed Commander of the Iowa Division of the Women's Field Army for the Control of Cancer. Dr. F. P. McNa-

mara was the only member of the executive committee able to be present.

Transactions: 1. Discussion of plans for the 1938 campaign of the Women's Field Army, which is to be staged in April, 1938. 2. Financial policy of the organization to be referred to the full Cancer Committee before further procedure. 3. Mrs. M. C. Hennessy was asked to choose and appoint the members of the Advisory Committee of the Army. 4. Mrs. Hennessy delegated to choose vice-commanders through and with the approval of members of the Council of the Iowa State Medical Society. 5. Decision to appoint treasurer of the Iowa Division of the Women's Field Army from same location as the commander to facilitate their work together.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the JOURNAL office.

Fifth International Congress of Radiology—September 13 to 17, Chicago.

American Congress of Physical Therapy, Sixteenth Annual Clinical and Scientific Session, September 20 to 24, Netherland Plaza Hotel, Cincinnati, Ohio.

Mississippi Valley Medical Society, Third Annual Meeting, September 29 to October 1, Lincoln-Douglas Hotel, Quincy, Illinois.

American Public Health Association, Sixty-sixth Annual Meeting, October 5 to 8, New York City.

American Board of Ophthalmology will conduct examination in Chicago, October 9. All applications and case reports, in duplicate, must be filed at least sixty days before the date of examination.

Military Surgeons Fortieth Annual Convention—October 14 to 16, Hotel Ambassador, Los Angeles, California.

Omaha Mid-West Clinical Society, Fifth Annual Assembly, October 17 to 22, Hotel Paxton, Omaha, Nebraska.

International Medical Assembly, Interstate Postgraduate Medical Association of North America, October 18 to 22, 1937, Municipal Auditorium, St. Louis, Missouri.

Fifteenth Annual Meeting of the Academy of Physical Medicine, October 19 to 21, Hotel Walton, Philadelphia, Pennsylvania.

New York Academy of Medicine, 1937, Annual Graduate Fortnight—November 1 to 12, New York.

American Board of Obstetrics and Gynecology will conduct examination November 6, 1937. All applications must be filed at least sixty days before the date of examination.

Pan American Medical Association, Seventh Cruise-Congress, Steamship Queen of Bermuda leaves New York for Havana, January 15, 1938.

American Association of Orthopedic Surgeons, Annual Meeting—January 16 to 20, 1938, Hotel Biltmore, Los Angeles, California.

American College of Physicians, Twenty-second Annual Session, April 4 to 8, 1938, New York City.

CONFERENCE OF FORMER IOWA METHODIST HOSPITAL INTERNES

Approximately one hundred and fifty former internes of the Iowa Methodist Hospital, members of the current class, staff members of the hospital, and several guests, attended a seven-thirty breakfast held at the Hospital in Des Moines, Sunday morning, August 22, 1937, after which the following well-planned postgraduate conference was presented:

Walter E. Baker, M.D., Presiding
(Class of 1905-'06)

Greetings—

Oliver J. Fay, M.D., Des Moines

Cholecystography—

Thomas A. Burcham, M.D., Des Moines
(Class of 1906-'07)

Discussion by

Lynn Hall, M.D., Associate Professor of Medicine, University of Nebraska
(Class of 1911-'12)

H. K. Knudsen, M.D., Clinton
(Class of 1926-'27)

Carcinoma of the Rectum—

Howard I. Down, M.D., Sioux City
(Class of 1926-'27)

Discussion by

H. C. Bone, M.D., Des Moines
(Class of 1924-'25)

Daniel W. Coughlan, M.D., Des Moines
(Resident Physician 1936-'37)

Low Back Pain—

S. J. Lang, M.D., Clinical Professor, Northwestern University School of Medicine
(Class of 1925-'26)

Discussion by

E. J. Harnagel, M.D., Des Moines
(Class of 1910-'11)

Verl A. Ruth, M.D., Des Moines
(Class of 1916-'17)

This type of combined reunion and postgraduate meetings is becoming increasingly popular, and the above reported session proved highly successful from every standpoint. Dr. C. B. Luginbuhl of Des Moines, who made all arrangements for the conference, is to be congratulated upon the fine program and the splendid attendance.

POLK COUNTY HEALTH UNIT ORGANIZED

According to a recent news item in the Bulletin of the Des Moines Academy of Medicine and Polk County Medical Society, organization of a Polk County Health Unit was effected August 18, when the Board of Supervisors accepted recommendations of Dr. Walter L. Bierring, State Commissioner of Health, and those of the Society.

The legal provisions for this health unit were made in the permissive county health law passed by the Forty-third General Assembly in 1929. The purpose and function of the unit will be the study and investigation of all communicable and preventable diseases, and insanitary conditions detrimental to public health occurring in Polk county outside of the city of Des Moines. The County Health Unit will

not function in or serve the city of Des Moines, but the personnel of the unit will cooperate with City Health Commissioner, Harry E. Ransom, M.D., in border line public health conditions affecting both county and city, and the services of members of the administrative staff of the Health Unit will be available to Dr. Ransom at such times as their duties with the county unit will permit.

The new unit is the outgrowth of a proposal by the State Department of Health and a survey of public health needs in Polk county by a committee of the Des Moines Academy of Medicine and Polk County Medical Society. This survey was followed by a recommendation to the City Council proposing the establishment of the unit. An agreement between the Society and the State Department of Health provides that the activity, which is of an experimental nature, will be terminated after one year if operation of it is unsatisfactory to the Society.

The unit will be under the direct supervision of a Polk County Board of Health consisting of the following members: Supervisors Charles Keller and Charles Elson, Drs. Walter E. Baker, Walter D. Abbott, and Lee F. Hill, representing the medical society; Dr. John F. Dwight of the Polk County Dental Society; Mayor Joe Allen; Dr. Fred Moore, representing the Des Moines public schools; the Reverend L. D. Lyons, of the parochial schools; Kenneth D. Nicholson, county school superintendent; and Mrs. Arthur Keyes of the Public Health Nursing Association. Funds for salaries and traveling expense will be furnished by the state. Operation of the new unit was scheduled for September 1.

SPEAKERS BUREAU RADIO SCHEDULE

Beginning Wednesday, September 29, the Iowa State Medical Society broadcast will be transmitted simultaneously from Stations WOI and WSUI by means of synchronized equipment. The hour of the broadcast will be 4:00 p. m. Until that week, the broadcasts will be transmitted from the two stations at the hours now assigned to us, or Fridays at 4:00 p. m. over WOI, and Mondays at 7:45 p. m. over WSUI.

Sept. 3 and 6.	Some Things to Remember About Cancer,	F. H. Lamb, M.D.
Sept. 10 and 13.	The Pituitary Gland,	Joseph Brown, M.D.
Sept. 17 and 20.	The Use and Abuse of Glasses,	S. D. Maiden, M.D.
Sept. 24.	The Importance of Early Diagnosis,	C. R. Watkin, M.D.
Sept. 29.	Romances of American Medicine, The Story of Radium,	T. A. Burcham, M.D.
Oct. 6.	Prenatal Care,	Roy I. Theisen, M.D.

THE OPEN FORUM

Viewpoints and opinions expressed in this section are those of the individual contributor and not necessarily those of the JOURNAL.

ARE PROSPECTIVE MEDICAL STUDENTS GETTING A SQUARE DEAL?

Under the present autocratic dictatorship of the Council on Medical Education, which is a child of the American Medical Association, the medical profession is slowly but surely becoming a profession of "brain trusters" and intellectual aristocrats. Under present educational standards dictated by the American Medical Association, the ordinary student of average ability and moderate means, in other words the poor boy, can never hope to look forward to medicine as a career. Only the super-intellectually endowed, and the privileged rich can hope to become the future physicians and surgeons, if the requirements for medicine continue their present trend.

Out of approximately one hundred and twenty students admitted to the medical department of the University of Iowa in 1933, only eighty of this number were graduated in June of this year. Forty of this class were disqualified during the four years from 1933 to 1937, the majority during the first two years because of their inability to meet the scholastic requirement of a weighted averaged of 1.5. Remember, these students who were eliminated, were all college men, some with baccalaureate degrees; none with less than two years premedical preparation in a recognized college or university. Is it fair to this large group of young men to permit them to go through all of this preparation for medicine, 90 per cent of them splendid students who do not happen to possess a phonographic record type of mind, which can record subject matter that is given them by their instructors and regurgitate it again on examination day in practically the same form it was given, and probably possessing better analytical minds than the eighty successful candidates, and then "flunk" them at the end of one or two years in medicine? The Association of Medical Colleges in the United States is so closed under the domination of the American Medical Association that a student who fails in one school, may, under no circumstances enter another while his failure is static. I cannot help but wonder just how much more humanely, efficiently or scientifically the sick will be treated by the eighty who passed than by the forty who were eliminated.

In the May, 1935, Bulletin of the American Medical Association we find the following information: "In 1931 the Association of Medical Colleges passed a

resolution recommending the use of aptitude tests as an additional guide in the selection of students. Accordingly the majority of schools base their decisions on aptitude test scores of the average grades of the premedical course," and again in the same bulletin—"Those who are contemplating medicine as a career should recognize the fact that the profession is already overcrowded." If this be true then why not stop this harangue on medical careers by notifying all preparatory schools that there are already too many doctors, that the profession is only open to aristocratic intellectuals and that it is closed to the student of ordinary ability and moderate means. If the aptitude test is of value why not use it when the student finishes high school and stop this waste of time and money. A two years' premedical course is of little or no value outside of the practice of medicine. Any time spent in a medical college is wasted unless the course is completed. Why maintain a great University Medical College in a little agricultural state like Iowa, at a great burden to the taxpayers, and not permit her to graduate enough students to take care of the rural communities in Iowa? That this statement is true we will show later on in this discussion.

Permit me to quote from a speech by Dr. William J. Mayo, in a commencement address at Notre Dame University, June 7, 1936:

"Personally I have not been in sympathy with the view, that because there are already so many well trained men, something must be done to prevent younger men from entering our professional schools. It certainly is a sad commentary on our times if we introduce unnecessary obstructions and obstacles to prevent students from entering the professions or to trap unwary students, so that they may be prevented from continuing their studies after their course is started, unless such procedures result in turning out better men and are not merely evidence of an unconscious trade-union which tends to make a profession an aristocracy. Let us not get the idea that there are too many doctors, too many lawyers, engineers, nurses, grocers, coal miners, and what not. As a matter of fact it would appear that there are too many of all of us; yet that assumption of itself refutes the argument that we must reduce the number in each class. It is almost a paradox that when we have too much of everything collectively, we worry because we have too little individually. As I think back on my classmates in college, I am impressed with the fact that many of them who had fine memories and stood at the head of their classes, in some way in after years missed acquiring wisdom and did not come up to our expectations. Some students can fill their minds with any given subject, book, chapter, and page, and can regurgitate this knowledge on examination day and thereby win class leadership. Such memorizing of knowledge has not necessarily any relation to wisdom."

I am reliably informed that the College of Medi-

cine, State University of Iowa, under the lash of the American Medical Association and the Council on Medical Education, will be compelled to limit its freshman class to one hundred students. Judging by past figures, sixty-five of this number will be graduated four years hence. The American Medical Association says the profession is overcrowded. Let us see what the situation is in rural Iowa.

1. There were 538 incorporated towns in Iowa in 1936 without the services of any physician in active practice.

2. The records showed that 298 Iowa towns in 1936 had only one physician engaged in active practice. The average size of such towns was 418. The average age of physicians located in these towns was 54.43 years.

3. The average age of physicians engaged in the active practice of medicine in Iowa in 1936 was 52.08 years.

4. The average age of physicians in active practice in towns of 5,000 and less was 52.91 years.

Do these records indicate that there is any valid reason for "flunking" from 25 to 35 per cent of students who register for medicine in Iowa? Can any reasonable thinking person come to any other logical conclusion than that the profession is being delivered into the hands of so-called super-intellectuals by the arbitrary methods of the small group who controls the Council on Medical Education, thereby building up a medical aristocracy?

I am a firm believer in high standards for medical practitioners and thorough preparation for medical students, but I cannot make myself believe that we have reached the point where, in order to have these high standards, it is necessary to compel students to go through unusual hardships in order to be prepared thoroughly for the practice of medicine. The pendulum has now swung to the point where the objective reached has become a menace rather than a blessing and is working an untold hardship on the rural sections of Iowa. The type of men now being graduated frown upon a country practice, and locate in cities where the profession actually is overcrowded, and while the American Medical Association can lash medical colleges into failing large groups of medical students, yet it is powerless in trying to compel these young physicians to locate in rural towns. There are rural communities in Iowa where the sick are paying from ten to fifteen dollars for physicians' calls—a prohibitive price. The American Medical Association tells us they are bitterly opposed to state medicine, yet they are producing the most fertile field possible in rural sections by creating a shortage of physicians. That the state legislators will shortly fill this gap there is no doubt. Perhaps they had this in mind two years ago when they dumped 750 osteopaths into the profession by a legislative act, giving them about all the rights and privileges of regular practitioners of medicine.

T. A. Moran, M.D., Melrose, Iowa.

WOMAN'S AUXILIARY NEWS

NATIONAL PRESIDENT VISITS DES MOINES

Mrs. Augustus S. Kech of Altoona, Pennsylvania, President of the Woman's Auxiliary to the American Medical Association, was in Des Moines, Friday, September 10, for the day. She met with members of the Board of Directors of the Iowa Auxiliary in an informal conference at 10:00 a. m. at the Hotel Fort Des Moines, and was entertained at a luncheon held at the Wakonda Club. Following the luncheon the Board conducted a formal meeting at 2:00 p. m.

Mrs. S. E. Lincoln, President of the Woman's Auxiliary to the Iowa State Medical Society, has announced the following committee appointments. Additional committees will be appointed at a future date.

Press and Publicity—Mrs. Fred Moore, Des Moines, Chairman

Mrs. R. C. Doolittle, Des Moines
Mrs. W. Vander Wilt, Rock Rapids
Mrs. E. A. Moore, Harlan
Mrs. C. S. Cornell, Knoxville

Finance—Mrs. C. A. Boice, Washington, Chairman

Mrs. W. R. Hornaday, Des Moines
Mrs. J. A. Downing, Des Moines
Mrs. M. C. Hennessy, Council Bluffs
Mrs. P. W. Beckman, Perry

Printing—Mrs. Dean W. Harman, Glenwood, Chairman

Mrs. L. A. Coffin, Farmington
Mrs. C. C. Nelson, Red Oak

Revisions—Mrs. J. C. Donahue, Centerville, Chairman

Mrs. T. A. Burcham, Des Moines
Mrs. C. G. Smith, Granger
Mrs. H. A. Spilman, Ottumwa.
Mrs. E. A. Hanske, Bellevue

Hygeia—Mrs. T. B. Throckmorton, Des Moines, Chairman

Mrs. H. W. Morgan, Mason City, Advisor
Mrs. B. S. Walker, Corydon
Mrs. D. C. Conzett, Dubuque
Mrs. M. O. Larson, Alton
Mrs. E. B. Hoeven, Ottumwa

Education—Program—Mrs. M. C. Hennessy, Council Bluffs, Chairman

Mrs. E. T. Warren, Stuart, Advisor
Mrs. R. A. Becker, Atlantic
Mrs. R. S. Moth, Council Bluffs
Mrs. C. P. Phillips, Muscatine
Mrs. F. G. Murray, Cedar Rapids

SPEAKERS BUREAU ACTIVITIES

POSTGRADUATE COURSES

The Speakers Bureau will present four postgraduate courses this fall: one on cancer at Cedar Rapids, one on general therapeutics at Algona; and one on endocrinology and metabolism at Waterloo and Sheldon. Outlines of the lectures are given below, together with tentative starting dates. The speakers have not all been selected yet, but as soon as they are definitely committed, letters will be mailed to all physicians in the vicinity of these cities, giving the full outline of the course and all pertinent information.

Cancer Course—Cedar Rapids

Begins latter part of September

Meetings held on Tuesdays

1. The Present Status of Cancer Knowledge
2. Morbid Anatomy and Physiology of Malignant Tumors
3. Cancer of the Uterus
4. Malignant Tumors of the Head and Neck
5. Evaluation of Radiologic Diagnosis and Treatment
6. Sarcomas
7. Cancer of the Colon and Rectum
8. Cancer of the Breast

Endocrinology and Metabolism—Sheldon and Waterloo

Begins latter part of September

Sheldon Meetings on Mondays

Waterloo Meetings on Tuesdays

1. Recent Advances in Pituitary Physiology
2. The Gonad Hormones in Health and Disease
3. Modern Treatment of Diabetes
4. Endocrine Therapy
5. Diets in Disease
6. Present Knowledge of Arteriosclerosis
7. Vitamins
8. Hypertension

General Therapeutics—Algona

Begins first part of October

Meetings held on Tuesdays

1. Modern Treatment of Anemia
2. Treatment of Bright's Disease
3. Treatment of Common Skin Disorders
4. Modern Treatment of Fractures
5. Diagnosis of Urologic Conditions in Relation to General Practice
6. Endocrine Therapy
7. Recent Advances in the Treatment of Infectious Diseases in Children
8. Roentgenologic Diagnosis

COLLEGE TALKS

The Speakers Bureau has been asked to present a series of lectures on medicine and health to the students of Luther College at Decorah, and Wartburg College at Waverly, and an outline of each series is given below. The course at Luther College will carry through the year, one talk being given every three or four weeks. The talks at Wartburg College will be given twice a week during October.

Luther College—Decorah

1. Syphilis
2. The Doctor and His Relation to the Community
3. Medical Science in the Service of Health
4. The Achievements of American Medicine
5. The Physiology of Circulation
6. Infection and Immunity
7. Human Metabolism in Health and Disease
8. Modern Surgery
9. Preservation of Eyesight and Hearing
10. Mental Health and Disease
11. The Physiology of Reproduction
12. Modern Endocrinology

Wartburg College—Waverly

1. Mental Hygiene
2. The Doctor and His Relation to the Community
3. Upkeep and Energy Supply
4. Infection and Resistance
5. Medical Science in the Service of Health
6. The Physiology of the Endocrine Glands
7. The Physiology of Reproduction
8. Heredity and Its Relation to Social Conditions
9. Body Mechanics
10. The Achievements of American Medicine

EDUCATIONAL POSTERS

Attention is directed to the posters pictured on the opposite page. These are small reproductions, in black and white, of a set of six educational posters which have been prepared by the United States Public Health Service as a part of the national campaign to eradicate syphilis. The full set of these posters may be secured from the Superintendent of Documents, Washington, D. C., for only seventy-five cents. Doctors who are taking an active part in this educational campaign against syphilis may be interested in securing a set of these colored posters to serve as graphic illustrations of points made in talks on the subject, to display in their offices, for local educational exhibits such as at Parent-Teacher Association meetings, county fairs, health clinics, etc. The full size posters are 15 by 19½ inches, and are printed in attractive colors.

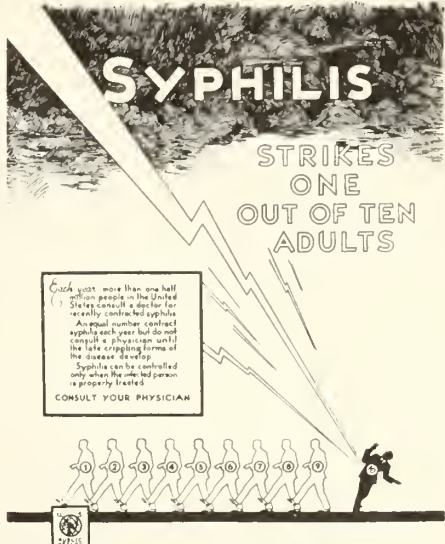
The Speakers Bureau committee feels that this campaign, already nationwide in scope, requires the wholehearted cooperation of the practicing physicians in every state to ensure its fullest attainment. It is the hope of your Speakers Bureau committee that physicians in the state of Iowa will respond by taking an active part in this worthwhile and deserving project.



SYPHILIS WRECKS MARRIAGE

Health examination before marriage is the best way to prevent infection of newly married people with syphilis


CONSULT YOUR PHYSICIAN



SYPHILIS STRIKES ONE OUT OF TEN ADULTS

Each year more than one-half million people in the United States consult a doctor for recently contracted syphilis. An equal number contract syphilis each year but do not consult a physician until the late crippling forms of the disease develop. Syphilis can be controlled only when the infected person is properly treated.

CONSULT YOUR PHYSICIAN



The DUTIES OF THE HEALTH DEPARTMENT IN SYPHILIS CONTROL

REPORTING
LABORATORY
CLINICS
FOLLOW UP
EDUCATION

Your State and local health departments, in cooperation with voluntary agencies and the physician in private practice, are responsible for the control of syphilis.

WE SHOULD SUPPORT THEM




80% MAY BE CURED DURING FIRST YEAR OF INFECTION

Acquired SYPHILIS

Proper treatment started during the first year of the disease and continued weekly for eighteen months is almost sure to make recovery certain.

CONSULT YOUR PHYSICIAN

ONLY 30% MAY BE CURED 3-20 YEARS AFTER INFECTION



SYPHILIS KILLS BABIES

CONTROL SYPHILIS

PROPER TREATMENT OF THE EXPECTANT MOTHER PREVENTS INFECTION OF THE UNBORN CHILD

Syphilis can be transmitted to the unborn baby. Every expectant mother should have a blood test. If found to have syphilis she should begin treatment before the fifth month of pregnancy and continue it until the baby is born.

CONSULT YOUR PHYSICIAN



COMPETENT MEDICAL CARE VS. SELF-TREATMENT

The WISE PERSON takes no chances. Consult a competent physician or go to a reputable clinic.

Avoid THE QUACK who guarantees a cure for syphilis, and the DRUG CLERK who wants to treat you

SYPH

SOCIETY PROCEEDINGS

Hardin County

The Hardin County Medical Society held its regular monthly meeting Tuesday, August 31, at the Winchester Hotel in Eldora, with A. G. Fleischman, M.D., of Des Moines, as guest speaker. Dr. Fleischman spoke on Stone in Urinary Tract.

Linn County

The Linn County Medical Society will open its fall meetings with a program on Tuesday, September 14, at which time it will entertain as guest speakers, Edward William A. Ochsner, M.D., professor of surgery, Tulane University of Louisiana, School of Medicine, New Orleans; and Edward H. Ochsner, M.D., of Chicago. Discussion of these two addresses will be opened by Drs. R. Russell Best of Omaha, Nebraska; Frank Peterson of Iowa City; and H. E. Pfeiffer and B. J. Moon, both of Cedar Rapids. A ten minute paper will be presented by G. N. Bickert, M.D., of Cedar Rapids.

T. F. Hersch, M.D., Chairman Program Committee

Tama County

Merle R. French, M.D., of Cortland, New York, addressed a special meeting of the Tama County Medical Society, held in Toledo, Monday, August 16. The program was held following a picnic supper at Clark Park, and Dr. French, who was visiting in the community, spoke on Experiences in the Control of Venereal Diseases.

PERSONAL MENTION

Dr. H. P. Smith, of the department of pathology at the State University of Iowa, College of Medicine, has received a grant of \$10,000 from the John and Mary R. Markle Foundation, for research on blood clotting and the bleeding tendency.

Dr. Elmer M. Smith will be associated in the practice of medicine with Dr. B. M. Biersborn of State Center, according to an announcement recently made by Dr. Biersborn. Dr. Smith, a son of Dr. Channing G. Smith of Granger, was graduated from the State University of Iowa, College of Medicine, in 1935, and served his internship at the University Hospitals.

Dr. Aldis A. Johnson of Council Bluffs, addressed the local Kiwanis Club, Tuesday, August 17, on the subject, "Syphilis."

Dr. Leo J. Homan, formerly of Marion, Iowa, has located for the practice of medicine in Solon, where he is occupying Dr. Pauline V. Moore's former offices.

Dr. Homan was graduated in 1925 from Creighton University School of Medicine, Omaha.

Dr. Walker B. Henderson, who was graduated in 1931 from the State University of Iowa, College of Medicine, has located in Oelwein. Dr. Henderson comes to Iowa from Wyoming, where he has been engaged in the practice of medicine for the past year. Previous to that time he was taking postgraduate work in pediatrics.

Dr. B. F. McNeil, who has practiced for many years in Clutier, is retiring because of ill health. Dr. and Mrs. McNeil are moving temporarily to Marshalltown.

Dr. Dwight A. Mathes, formerly a resident surgeon on the staff of the University Hospitals at Iowa City, has located for the private practice of medicine in Jefferson. Dr. Mathes was graduated in 1931 from the University of Kansas, School of Medicine, Lawrence, Kansas.

Dr. Russell R. Hansen will be associated with Dr. W. C. Porath of Storm Lake, in a recently announced partnership. Dr. Hansen was graduated from the State University of Iowa, College of Medicine, in 1932, and comes to Storm Lake from Elmira, New York, where he has been taking a special course in surgery at the Arnot-Ogden Memorial Hospital.

Dr. Orvin G. Glesne has located permanently in Monona, where he will continue in his chosen profession. Dr. Glesne was graduated in 1933 from the State University of Iowa, College of Medicine, interned at the Denver, Colorado, General Hospital, and practiced for a short while in Fort Collins, Colorado.

Twelve Iowans will attend and participate in the Fifth International Congress of Radiology, to be held in Chicago, September 13 to 17, the first ever to be held in the United States. On the program will be Clarence Van Epps, M.D., and H. Dabney Kerr, M.D., of the departments of neurology and radiology, State University of Iowa, College of Medicine, Iowa City, who will present a paper on "Familial Lumbosacral Syringomyelia"; John W. Cowen, Ph.D., of Iowa State College, Ames, who will give an illustrated lecture on "The Inheritance Structure of the Cell and Its Relation to Irradiation Effects"; and Arthur W. Erskine, M.D., of Cedar Rapids, who will report on "The Iowa Experiment in Cancer Control." Other physicians attending the conference are: Dr. William S. Greenleaf of Atlantic, Dr. Edward J. Wehman of

Burlington, Dr. James V. Prouty of Cedar Rapids, Dr. Carl L. Gillies of Iowa City; Dr. Harold L. Morgan of Mason City, Dr. Arthur E. Perley of Waterloo, and Dr. Thomas A. Burcham of Des Moines, who is one of the four national delegates from the United States to the Congress. An unusual feature of this meeting is the simultaneous projection of pictures and text in three languages, English, French and German, on a large screen as the essayists are reading their papers. An attendance of 2,500 is expected for this meeting which will be addressed by outstanding scientists of the world.

HONORABLE MENTION FOR IOWA EXHIBITS

The attention of Iowa physicians is called to the fact that the award of honorable mention was given to three scientific exhibits entered by the State University of Iowa, College of Medicine, at the recent annual session of the American Medical Association. In Class I, that of exhibits of individual investigation, special attention was accorded a display of renal damage from blood transfusion, prepared by Drs. Elmer L. DeGowin and William L. Randall. In Class II, an exhibit on arterial distribution within the prostate gland and its rôle in prostatic resection, prepared by Dr. R. H. Flocks, and one on orbital tumors, prepared by Dr. Cecil S. O'Brien, Dr. P. J. Leinfelder, and Dr. A. E. Braley, were awarded honorable mention.

MARRIAGES

The marriage of Miss Dorothy Edwards and Dr. Dwight C. Wirtz, both of Des Moines, took place Saturday, September 4, at St. Paul's Episcopal Church in Des Moines. The bride was graduated from the Kootenay Lakes General Hospital School of Nursing, at Nelson, British Columbia, Canada, and took a postgraduate course in anesthesia at the Grace Hospital in Detroit, Michigan. She has been employed as anesthetist at the Iowa Methodist Hospital for the past six years. Dr. Wirtz was graduated from the State University of Iowa, College of Medicine, in 1928, and served his internship at Fairview Hospital in Minneapolis. He has taken special work in orthopedics at the Gillette State Hospital in St. Paul, the Cook County Hospital in Chicago, and Columbia University in New York.

Dr. and Mrs. Wirtz will be at home after September 15 at 3516 Center Street in Des Moines, where Dr. Wirtz has been practicing for the past seven years, having recently moved into new offices at 804 Equitable Building.

DEATH NOTICES

DeBey, Albert, of Orange City, aged seventy-six, died August 5, at the DeBey Hospital in Orange City, after an illness of more than three years. He was graduated in 1884 from Rush Medical College, Chi-

cago, and had been a member of the Sioux County Medical Society for many years.

Graves, Dorr, formerly of Gilman, aged eighty-nine, died August 15, at the home of his son in Grinnell, with whom he had been living since ill health forced his retirement three years ago. He was graduated in 1871 from the New York University Medical College, and had long been a member of the Marshall County Medical Society.

Groom, William Simpson, of Conway, aged seventy-eight, died August 4, after an illness of several months. He was graduated in 1882 from the College of Physicians and Surgeons, Keokuk, and at the time of his death was a member in good standing of the Taylor County Medical Society.

Parriott, Robert Phill, of Des Moines, aged sixty-four, died August 25, of coronary thrombosis. He was graduated in 1898 from the Drake University College of Medicine, Des Moines, and at the time of his death was a member in good standing of the Polk County Medical Society.

EDITOR EMERITUS OF JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION DIES

As this issue of the JOURNAL goes to press, word comes of the death of Dr. George H. Simmons, editor and general manager emeritus of the *Journal of the American Medical Association*, which occurred Wednesday, September 1, at St. Luke's Hospital in Chicago. He failed to recover from an abdominal operation performed one week earlier.

Dr. Simmons was eighty-five years of age at the time of his death, having been born in Moreton, England, in 1852. He came to the United States in 1870 and studied at Tabor College in Iowa in 1871 and 1872, and at the University of Nebraska from 1872 to 1876. He held doctor of medicine degrees from Hahnemann Medical College, granted in 1882, and from Rush Medical College, granted in 1892. In 1896, Dr. Simmons established the *Western Medical Review*, acting as its editor, and from 1895 to 1899 he was secretary of the Nebraska State Medical Society. In 1899 the Board of Trustees of the American Medical Association chose Dr. Simmons for the position of general secretary, which he filled from 1899 to 1911, and of editor, which he occupied from 1899 to 1924. Under his leadership the *Journal of the American Medical Association* became a significant weapon in the initiation and progress of great movements for the advancement of medical education and medical science. To tell the story of Dr. Simmons' services in this period is, in fact, to tell the history of the American Medical Association during the same period.

Of Dr. Simmons it has been said, "He was unquestionably the greatest factor in his generation in the development of the American Medical Association and the profession that it represents. The medical profession of the United States owes him a debt which it could never pay, and which he never wished to collect."

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. McCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

Physicians—Past and Present of Jasper County, Iowa

M. R. HAMMER, M.D., Newton, Iowa

(Continued from last month)

William Painter was graduated in 1881 from Rush Medical College, and practiced in Lynnville. He is now retired and living in University Park, Mahaska County, Iowa.

J. L. Pifer practiced in Newton, and later located in Chicago. He is now in active practice in Buckhannon, West Virginia.

H. C. Potter, who once practiced in Prairie City, later located in Des Moines, and has since died.

Austin Flint Quire was graduated in 1901 from the College of Physicians and Surgeons, Keokuk, after which he located in Lynnville, where he is still engaged in active practice.

C. E. Quire was graduated in 1870 from Rush Medical College and located in Lynnville at the close of the Civil War, where he continued in practice for more than forty years. His two sons, Frank E. and Austin Flint, are now practicing in Lynnville.

Frank Edward Quire was graduated from Rush Medical College in 1892. He practiced first in Peoria, Illinois, and later located in Lynnville.

M. W. Richey practiced in Colfax, and later at Le Mars; present address unknown.

J. Ridhout, located in Jasper County in 1850, practicing in Newton, and near Baxter for many years. He died in Newton.

Samuel Ridhout, son of Dr. J. Ridhout, read medicine with Dr. Perry Engle; present address unknown.

Sterling James Ritchey was born February 4, 1908, in Bradgate, Iowa. He was graduated in 1932 from the State University of Iowa, College of Medicine, and practiced in Colfax from March, 1935, to October, 1936, since which time he has been in Newton. He is the present secretary of the Jasper County Medical Society.

E. H. Robb was graduated in 1890 from the State University of Iowa, College of Medicine. He was associated with Dr. Gorrell in Newton, and later moved to Meenah, Wisconsin.

C. T. Robbins was formerly a partner of Dr. Perry Engle in Newton. He later moved to Des Moines.

L. O. Rodgers practiced and died in Newton.

J. R. Ryan practiced in Colfax for more than forty years. He later moved to Des Moines, where he practiced for ten years before his death. He has two nephews, Charles and Granville Ryan, who are engaged in the practice of medicine in Des Moines.

R. A. Schlag was graduated in 1903 from the Gross Medical College, Denver, and practiced in Monroe.

John W. Schooley, a native of New York state, first practiced in Pella. He later came to Monroe, and finally to Reasnor, where he was associated with Dr. M. R. Hammer. He died in Reasnor. Dr. Schooley was the first president of the reorganized Jasper County Medical Society in 1874. During the Civil War he served as assistant surgeon of the Third Iowa Infantry from October 22, 1862, until he resigned June 21, 1864. He was wounded June 4, 1863, at the siege of Vicksburg, Mississippi.

W. H. Shaw was graduated in 1868 from the University of Michigan Medical School, Ann Arbor, and practiced in Monroe.

John B. Sherbon and his wife, Florence Brown Sherbon, were graduated in 1904 from the State University of Iowa, College of Medicine. They practiced for a number of years in Colfax, later moving to Lawrence, Kansas, where Dr. Florence Brown Sherbon is still living, being associated

with the University of Kansas. Dr. John B. Sherbon is located in Pottstown, Pennsylvania.

James A. Shrader practiced and died in Monroe. He was a brother of Dr. John C. Shrader, long connected with the State University of Iowa, College of Medicine.

A. C. Simonton was associated with Dr. Henry E. Hunter in Newton before he moved to California.

Edward Smart practiced in Newton before his removal to Nebraska.

C. C. Smead was graduated in 1880 from Rush Medical College, and practiced in Reasnor and Sully, before coming to Newton, where he practiced until his death.

Leslie L. Smead was graduated in 1903 from Northwestern University Medical School, and has been located in Newton since that time. His son, Howard H. Smead, is a senior medical student at the State University of Iowa, College of Medicine.

Frank L. Smith was graduated from the Drake University College of Medicine in 1900, and located in Monroe in 1901. In 1915 he moved to Newton, where he has been practicing up to the present time.

J. C. Smith was graduated in 1895 from the Keokuk Medical College, and practiced and died in Sully.

J. R. Smith practiced and died in Kellogg.

Mack Smith practiced a short while in Vandalia.

Daniel W. Smouse practiced for a short while in Monroe, before going to Des Moines, where he practiced for more than twenty-five years. He and his wife will long be remembered for their donation of the Smouse Opportunity School for handicapped children in Des Moines. Dr. Smouse is now living in Los Angeles, California.

Frank W. Stewart practiced in Colfax; present address unknown.

Roy D. Stone was graduated in 1910 from the Hering Medical College of Chicago, and is practicing in Sully.

S. F. Stouder came from Des Moines to Newton, where he practiced several years before his death.

Claude E. Thompson practiced in Newton for some time, and later moved to Winterset, where he died.

A. B. Thornell was located in Newton in 1860, and later moved to Knoxville, where he died.

John E. Traister practiced in Colfax; present address unknown.

W. R. Trotter practiced in Newton and later in Des Moines. He has since died.

H. A. Weirich practiced in Colfax; present address unknown.

D. W. Wheelwright practiced and died in Monroe.

Dr. Willey practiced in Newton about seventy years ago.

Dr. Wolf also practiced in Newton about seventy years ago.

Rollin Webster Wood was born in Brooklyn, May 2, 1887. He was graduated in 1910 from the State University of Iowa, College of Medicine, and took special postgraduate work in Minneapolis, Chicago, New York, Paris and London. Dr. Wood practiced in Kellogg from 1910 to 1915, and has been located in Newton since 1917.

Dr. Wright practiced medicine in Newton for about ten years; he died in 1855.

Thomas D. Wright was born in Des Moines, September 19, 1900. He was graduated in 1928 from the State University of Iowa, College of Medicine, and has been engaged in the practice of medicine in Newton since 1930.

The following individuals read medicine with Dr. Perry Engle: James M. Brown, James Cooper, Joseph Coughill, Asbury Edgar, Harry P. Engle, Theodore Engle, J. F. Hammer, Marion R. Hammer, Frank Hunter, Daniel Johnson, George Johnson, C. J. Lukins, Samuel Ridhout, Bailey Thomas, and A. Wells.

The following physicians were born in Jasper County: Will Adair, Joel Booth, William H. Booth, C. E. Boyd, F. E. Boyd, C. E. Broderick, F. E. Carpenter, Harry P. Engle, Howard D. Gray, Adam Grimes, Eli Grimes, J. F. Hammer, M. R. Hammer, S. E. Hinshaw, D. F. Janeway, Ralph S. McLaughlin, E. A. McMurray, Max Miller, Everett Moore, A. G. Quire, F. E. Quire, Edward Smart, Leslie L. Smead, William R. Trotter, Alice D. S. Turner, and Lewis C. S. Turner.

THE JASPER COUNTY MEDICAL SOCIETY

The first medical society of Jasper County was organized in May, 1858. Dr. John Hunter was elected president and his son, Dr. Henry Hunter, secretary. Drs. Harris and Gray were elected to frame a constitution and by-laws. Drs. Dinwiddie and Henry Hunter were selected to draw up a fee bill. The society completed its organization May 24, 1858, with five members. This was shortlived and Jasper County had no medical society until June, 1874, when another organization was effected with the following officers: Dr. J. W. Schooley of Monroe, president; Dr. J. W. Adams of Prairie City, vice president; Dr. B. M. Failor of Newton, secretary; Dr. J. R. Gorrell of Newton, treasurer; and Dr. H. E. Hunter of Newton, Dr. J. A. Hammer of Colfax, and Dr. W. H. Shaw of Monroe, censors. This society was also disrupted, but was reorganized in 1879, with Dr. Henry E.

(Concluded on page 510)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- CLINICAL ALLERGY**—By Louis Tuft, M.D., Chief of Clinic of Allergy and Applied Immunology, Temple University Hospital. Illustrated. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.
- CLINICAL ENDOCRINOLOGY**—By Samuel A. Loewenberg, M.D., clinical professor of medicine, Jefferson Medical College, Philadelphia. With 194 illustrations and 37 charts and tables. F. A. Davis Company, Philadelphia, 1937. Price, \$8.00.
- CLINICAL REVIEWS OF THE PITTSBURGH DIAGNOSTIC CLINIC**—Edited by H. M. Margolis, M.D., Pittsburgh. Paul B. Hoeber, Inc., New York, 1937. Price, \$5.50.
- COLLECTED PAPERS OF THE MAYO CLINIC**—Edited by Richard M. Hewitt, M.D., Lloyd G. Potter, M.D., and A. B. Nevling, M.D., Volume XXVIII. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$12.00.
- ELECTROCARDIOGRAPHY**—By Chauncey C. Maher, M.D., assistant professor of medicine, Northwestern University. Second edition. William Wood and Company, Baltimore, 1937. Price, \$4.00.
- HEALTH EDUCATION OF THE PUBLIC**—By W. W. Bauer, M.D., Director of the Bureau of Health and Public Instruction, American Medical Association; and Thomas G. Hull, Ph.D., associate professor of bacteriology, University of Illinois, College of Medicine. Illustrated. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$2.50.
- HEART FAILURE**—By Arthur M. Fishberg, M.D., associate in medicine, Mount Sinai Hospital, New York City. Octavo, 788 pages, illustrated. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.
- THE INTERNATIONAL MEDICAL ANNUAL**—Edited by H. Lethely Tidy, M.D., and A. Rendle Short, M.D. William Wood and Company, Baltimore, 1937. Price, \$6.00.
- THE LARYNX AND ITS DISEASES**—By Chevalier Jackson, M.D., and Chevalier L. Jackson, M.D., Temple University, Philadelphia. 555 pages with 221 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.
- THE NORMAL ENCEPHALOGRAM**—By Leo M. Davidoff, M.D., assistant professor of neurology, Columbia University College of Physicians and Surgeons; and Cornelius G. Dyke, M.D., assistant professor of radiology, Columbia University College of Physicians and Surgeons. Lea and Febiger, Philadelphia, 1937. Price, \$5.50.
- PERSONAL HYGIENE**—By C. E. Turner, M.A., Dr. P.H., professor of biology and public health in the Massachusetts Institute of Technology. With 84 text illustrations and three colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$2.25.
- PHYSICAL DIAGNOSIS**—By Don C. Sutton, M.D., associate professor of medicine, Northwestern University School of Medicine. With 298 text illustrations and eight colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.
- THE TECHNIC OF LOCAL ANESTHESIA**—By Arthur E. Hertzler, M.D., professor of surgery, University of Kansas. Sixth edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.
- A TEXTBOOK OF SURGICAL NURSING**—By Henry S. Brookes, Jr., M.D., instructor in clinical surgery, Washington University School of Medicine. With 233 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.50.

BOOK REVIEWS

CATARACT—ITS PREVENTIVE AND MEDICAL TREATMENT

By A. Edward Davis, M.D., formerly professor of ophthalmology, New York Post-graduate Medical School and Hospital. F. A. Davis Company, Philadelphia, 1937. Price, \$3.00.

The author has gone into detail in regard to the medical treatment of cataract in an effort to check the progress. The sections on physical examination and general hygiene are of great value, particularly so to ophthalmologists who are inclined to neglect the general practice of medicine. Whether or not one is inclined to agree with the protein therapy of the author, the great amount of detail work must command respect and attention. J.A.D.

have been introduced and specialized fields of endeavor have been discussed by specialists in those fields. Of particular interest in Volume One is the extensive treatise on plastic surgery which includes technic for facial and other plastic operations. Surgery of the neck, including gland resections and procedures for the various congenital fistulas, receives admirable handling in the text, accompanied by numerous graphic illustrations. Volume Two likewise contains much of interest. Surgery of the gastrointestinal tract for malignant and benign conditions, reconstructive procedures for the biliary passages, and genito-urinary surgery including operations for hypospadias, etc., are all very interestingly and instructively handled. Throughout, the method of procedure and technic of operations receive paramount consideration. Those interested in surgery of any type will greatly enjoy these two volumes.

J.B.P.

OPERATIVE SURGERY

Edited by J. Shelton Horsley, M.D., L.L.D., F.A.C.S., attending surgeon, St. Elizabeth's Hospital; and Isaac A. Bigger, M.D., professor of surgery, Medical College of Virginia. In two volumes. The C. V. Mosby Company, St. Louis, 1937. Price, \$15.00 per set.

The fourth edition has been enlarged and revised to cover all branches of surgery including neurology, orthopedics, urology and chest surgery. The two volumes contain 1259 drawings and photographs. A representative list of literary references for further study accompanies each chapter. Newer procedures

THE OCULAR FUNDUS IN DIAGNOSIS AND TREATMENT

By Donald T. Atkinson, M.D., consulting ophthalmologist to the Santa Rosa Infirmary and the Nix Hospital, San Antonio, Texas. With 106 illustrations, including 58 colored plates. Lea and Febiger, Philadelphia, 1937. Price, \$10.00.

This volume is a very short, concise, exact atlas of the ocular fundus. The illustrations have all been drawn by the author. The colored plates show

marked attention to detail, as well as marked artistic ability. The black and white schematic drawings are exceptionally well done, and portray the pathology which the author has intended to present. Its brevity of text makes it a splendid quick reference book for office use, yet it still covers a great majority of pathologic conditions which will be encountered in ordinary routine ophthalmologic work.

J.A.D.

INFANTILE PARALYSIS AND CEREBRAL DIPLEGIA

By Elizabeth Kenny, Elizabeth Kenny Clinic and Training School, George Street, Brisbane, Queensland, Australia. Angus and Robertson, Ltd., 89 Castlereagh Street, Sydney, Australia, 1937. Price, £1/1/.

This volume presents a method for restoration of function in infantile paralysis and cerebral diplegia and gives the results of the author's experience of sixteen years with the same method. The method, though new to most of us, is logical in principle, and is intended to be carried out only under close supervision of the physician. The technic employed in the treatment is described in detail for each group of muscles and this description is accompanied by good illustrations which further aid the operator.

In the hands of the author, the results obtained by the method, which she very clearly sets forth, have been more satisfactory than those obtained by any of the standard methods. It is a volume that will be of value to every practicing physician in that it gives an insight into what can be accomplished in many cases that have been termed hopeless.

L.M.O.

AN INTRODUCTION TO MATERIA MEDICA AND PHARMACOLOGY

By Hugh McGuigan, M.D., professor of materia medica, pharmacology and therapeutics, University of Illinois, College of Medicine, Chicago. With 71 text illustrations and 18 colored plates. The C. V. Mosby Company, St. Louis, 1936. Price, \$2.75.

This text is a revision of the fourth edition of Brodie's *Materia Medica for Nurses* based on the new editions of the United States Pharmacopoeia and the National Formulary.

The first part of the volume is devoted to elementary materia medica and includes a brief history of the subject, a cursory discussion of the important chemistry of drugs, the active principles of plant drugs, an excellent arithmetic review, the two systems of weight and measure, and an excellent review of the fundamentals of pharmacology. The second part of the book includes advanced materia medica and the therapeutic application of drugs to the various systems of the human organism.

One is impressed by the excellent composition and editing of this volume and the thorough manner in which the subject is covered.

D.H.K.

OUT OF THE TEST TUBE

By Harry N. Holmes, Ph.D., Oberlin College. New edition, revised and expanded. Emerson Books, Inc., 251 West 19th St., New York, 1937. Price, \$3.00.

This book is the fascinating story of chemistry written for the layman, but of profound interest to any student of the sciences. It is written in a very entertaining manner and the author has the ability to make molecules and atoms, electrons and protons, clear and understandable entities.

The author incorporates the history of various advances in chemistry and presents interesting biographic sketches which contribute to the character of the content. The application of chemistry to industry, to every day life, to biologic processes, to medicine and therapeutics is brought out in a very clear and illuminating manner.

For the doctor who wishes several hours of entertaining and instructive relaxation this book can be highly recommended.

D.H.K.

SURGICAL TREATMENT

By James Peter Warbasse, M.D., special lecturer in the Long Island Medical College; and Calvin M. Smyth, M.D., assistant professor of surgery, University of Pennsylvania, Graduate School of Medicine. Second edition, 2617 pages with 2486 illustrations. Three volumes with separate index. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$35.00 per set.

It is difficult to understand how Warbasse and Smyth have compiled so much surgical information in a three volume set of beautifully written books. In the foreword the senior author states the purpose of this work is "not to glorify surgery but to cure surgical patients," and that goal certainly has been reached.

The first subject given attention is that of general principles of surgical treatment, and might well be read by any seasoned surgeon as well as by the beginner. Asepsis, antisepsis, sterilization and essential preparations for practically every operation under both good and adverse conditions are discussed at some length. The information given is clear and concise, yet very complete in all details. It is a generally accepted fact that surgical progress has been marked in the past few decades, due mainly to control of septic conditions, control of pain and control of hemorrhage. These three subjects have been described in a masterly manner. The subject of anesthesia is especially enlightening. With all the new anesthetics meticulously described and advice given for their administration, the authors have taken

time and space to do honor to the older forms of anesthetics. The indications and contraindications of the various anesthetics are clearly stated.

The volumes are not limited to general surgery, but serve as a source of information in the special branches, orthopedic, urologic and the head specialties being included. The very complete descriptions are enhanced by well chosen drawings and pictures. In describing treatments for any surgical condition the writers have not only set out what they feel is the best treatment, but they have also added other recognized forms of therapy which could be used to advantage when necessary.

It seems impossible to do justice to such a splendid work by reviewing it in a few paragraphs. After having read the three volumes your reviewer feels they deserve a convenient and prominent place on every surgeon's desk; not because they are a beautifully bound set of books on surgical treatment, but because they are a fountain of surgical information from beginning to end, and could well be consulted by any active surgeon with resulting benefit to his patients. The authors of this splendid work are to be congratulated and I recommend unhesitatingly to my colleagues Warbasse and Smyth's "Surgical Treatment." It is the most complete three volume treatise on surgical treatment that I have been privileged to read.

L.D.P.

WOMAN'S PRIME OF LIFE

By Isabel Emslie Hutton, M.D., physician to the British Hospital for Functional, Mental and Nervous Diseases, London. Emerson Books, Inc., 251 West 19th Street, New York, N. Y., 1937. 148 pages with index. Price, \$2.00.

This is a book written for women approaching or in the climacteric. It describes the normal changes occurring during that period as well as the abnormal things that may take place. There are chapters on hygiene, diet and exercise. It should be helpful for the woman who is not neurotically inclined.

A.D.J.

HANDBOOK OF ORTHOPAEDIC SURGERY

By Alfred Rives Shands, Jr., B.A., M.D., associate professor of surgery in charge of orthopedic surgery, Duke University School of Medicine. With 169 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.

The author's purpose in writing this volume was the presentation of the facts and principles of orthopedics in a concise manner, yet enough in detail to give the medical student and general practitioner a well rounded knowledge of orthopedic surgery. This purpose has been accomplished very well. The clinical and pathologic findings in nearly all of the

important orthopedic lesions are clearly, but concisely discussed. The illustrations are simple and largely diagrammatic. However, they give to the reader a clear conception of the ideas set forth by the author.

The book will probably be of little value to the orthopedic surgeon, because it would be impossible in a volume of its size to cover in detail the whole field of orthopedic surgery. However, the general practitioner will find in it the information necessary to give him a comprehensive knowledge of the subject. If he wishes to broaden this knowledge, the rather complete bibliography will be of considerable value.

L.M.O.

HISTORY OF MEDICINE

(Continued from page 507)

Hunter as president; Dr. B. M. Failor, as secretary; and Dr. Perry Engle as treasurer. Other members included Drs. Marion R. Hammer and J. W. Schooley. In 1912 Dr. Perry Engle reported: "The society is composed of twenty-five members, with the following officers: Dr. Harry Engle, president; Dr. L. C. S. Turner, vice president; Dr. F. E. Boyd, secretary; and Dr. Perry Engle, Dr. C. E. Boyd and Dr. John Sherbon, censors. Members in good standing of the Jasper County Medical Society for 1937 are:

Anspach, Royal G.....	Colfax
Besser, Edward F.....	Newton
Billingsley, John W.....	Newton
Boyd, Frank E.....	Newton
Canfield, Herbert W.....	Baxter
Carpenter, Frank	Reasnor
Carpenter, Fred E.....	Newton
Carpenter, Oscar O.....	Sully
Engle, Harry P.....	Newton
Ennis, Harry H.....	Baxter
Fellows, Liberty E.....	Newton
Frech, Raymond F.....	Newton
Gould, Isaac L.....	Kellogg
Hammer, Marion R.....	Newton
Harp, John F.....	Prairie City
Herny, Peter M.....	Prairie City
Hill, James C.....	Newton
Hinshaw, Sylvester E.....	Newton
Johnson, J. A. William.....	Newton
Lieberman, Nolton S.....	Monroe
McMurray, Edward A.....	Newton
Quire, Frank E.....	Lynnville
Reynolds, Albert C.....	Mingo
Ritchey, Sterling J.....	Newton
Smead, Leslie L.....	Newton
Smith, Frank L.....	Newton
Stone, Roy D.....	Sully
Tharp, Hubert M.....	Monroe
Wood, Rollin W.....	Newton
Wright, Thomas D.....	Newton

THE END

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MEDICAL ECONOMICS*

CHARLES GORDON HEYD, M.D., New York, N. Y.

I am scheduled to talk on "medical economics." I would like to introduce the few observations that I have to make, by a story of Lord Dunsany. It is a sort of fairy tale. An Englishman had, for many tasks well performed, obtained the good favor of a fairy, and the fairy asked this gentleman what he would like, saying that any one wish would be granted and, in great fairness, told him to take twenty-four hours to decide what he would desire. So the Englishman stated he would like a copy of the *London Times* for December 31st a year in advance. This was forthcoming. Our Englishman looked at the title page, and there was the usual thing, a gunboat ripped by a mine, starvation in China, famine in India, strikes in Flint, somebody making a coronation bow. Then he turned to the stock market page, and he jotted down the price of the popular common stocks a year hence. He had advance knowledge that would make him rich beyond his dreams. Then, idly turning the page, he happened to notice his photograph and his own obituary and read that he would be dead and departed from this world in a few months. He tore up the paper because life held nothing for him beyond his own disillusion. It is a surprising and significant fact that suicides are so frequent in Russia where no man, by any reason of his own endeavor, can lift himself economically above the level of his colleagues.

History is supposed to be written around three fundamental ideas: first, the theory of the great man, the theory which is probably true today in America; second, the theory of racial determination, that is, certain races of people rise, by virtue of their hormonal activities, to power; and third, the economic theory that all life is determined in its final analysis by our subjugation or our conquering of the economic problem. There is no substantial reason to believe that medical service can be cheaper. On the contrary, it will probably

be more expensive. With the introduction of instruments of precision, the rise of diagnostic accuracy, and therapeutics, the cost of illness must increase. The expense of educating the doctor has increased within the life tenure of all of us. There is no reason to believe that medicine will occupy a lesser social rôle, and there is no reason to believe that the present economic system of medical practice will continue unchanged. Therefore, it is pertinent that we inquire into certain of the philosophic movements that have resulted in the present status of medicine.

It is apparent that medicine has been under criticism. It can rightfully be said that today people die of tuberculosis, and of typhoid, that malaria is still present, that anywhere from five to seven per cent of our population is infected with venereal disease, and that various other diseases which are completely possible of annihilation are still present and, therefore, the medical service must be inadequate. Then, the shibboleth of adequate medical care for all people at all times, under all circumstances, became the threnody of those who would destroy a functioning medico-social system. In the development of medicine, we must realize that about 1800, medical practice became one of the functions of society. There were reasons for that, quite aside from the field of medicine. They were, first, that tremendous exhibition of human ingenuity as represented in the discovery of steam, and then later the ability to harness power by steam, electricity and oil in the mechanization of life. The importance of this factor reaches down to today, for with it came a tremendous change in the social distribution of people in this country. About 1790, ninety per cent of the population was engaged in agriculture in this country; but by 1890 this percentage had dropped to about twenty-five per cent. In the meantime we encountered the rise of the great industrial cities, concentration of population and, with it, the peculiar social problems that go with urbanization.

The next important factor, in a large social sense, was the tremendous reproductive capacity of

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

the people. In other words, the population of the United States since 1890 has, roughly, doubled. The third important factor was the numerical increase in individuals of society with higher learning. From 1890 to 1935 graduates from our institutions of higher learning had increased over 1,650 per cent. In other words, in the curve of education we had increased sixteen and one-half times faster than our population. The fourth factor was the ability of man to become master of his environment, and this was expressed in the increase in individual longevity from some forty-seven years to fifty-nine years.

The result of these changes, in a progressive and cumulative fashion, is that we are passing into a changed society in which twenty-five per cent of the members of that society will be within the biblical age of three score years and ten. Twenty years ago, in the state of New York, 177 people died of typhoid in the month of April. Today, in the recent month of April, not a single person died of typhoid in the state of New York. With the disappearance of certain diseases, with their reduction to an irreducible minimum, there will pass away many of the diseases that now exercise a very high death rate. As a result of the increasing individual longevity, we will have a society in which medical attention will be more largely preventive than curative; so that one may visualize medicine of the future as being more and more preventive and less and less curative and reparative. This type of medical care will demand a greater degree of intimacy with the physician, more personal control, and a more continuous supervision of the patient's medical condition.

Equally important with these biologic factors in the change of medical-social relationships are two other very interesting aspects of medical economics, and they are represented in the two phases of the organization of medicine. From time immemorial, certain medical facts were accumulated, and then came the era of instrumentation and discovery, until we have a tremendous pyramid of scientific facts, so many scientific facts that a great number still remain unapplied in the practice of medicine. One with a cynical mind might say that society has been derelict in not taking the accumulations of science and applying them to the alleviation of human suffering. We have then, on one hand, this tremendous accumulation of scientific data and, on the other hand, clinicians and physicians who must apply these data. Between the scientific phase and the clinical phase is a tremendous gap, a gap so large that the philosophically inclined mind in medicine might well ask for a pause in discovery until we can apply what has been discovered, to our clinical

means. The critics of that statement may ask for proof. Here in your paper in Sioux City today is the story of a man fifty-six years of age, who was shot by a sheriff, after wounding two officers of the law who tried to take a physician into that household to determine if the children had smallpox. Legislatures are still debating laws against compulsory vaccination.

Here is a more significant fact, and it rests on the proposition that you cannot impose on society a political system, an economic system, or a medical system, until the intelligence and cultural level of the people are such that society is prepared to accept it. As an example, in 1905, Schaudinn discovered the *Spirochaeta*, the specific cause of syphilis. One year later, Wassermann devised the serologic test of syphilis. Four years later Ehrlich and Hata devised the arsenicals, so that by 1910 we had every means at our hand for the eradication of syphilis, and it took twenty-six years of public education before the radio or newspapers would allow the use of the word "syphilis." Every fact was present in 1910 for the eradication of syphilis except the creation of that public opinion which would make the researches and resources of medicine applicable to that disease.

There are certain areas in the United States where it is impossible to distribute medical services on any basis of adequacy or even on a minimal basis of our knowledge. What good is it, let us say, to send one million tooth brushes into certain areas of the community until the people of that community realize that the dentition of the child is dependent upon the food of the mother? The sustenance level of those people has to be brought up to comparable conditions of a modern social state. Many of the disabilities of the distribution of the medical services are dependent upon good roads, education, and the development of public opinion, and it is futile to expect that there can be devised, within the ingenuity of any politician or socialist or medical man today, a system that can be universally applied. One other example occurs to me. At the time of the Civil War, in the largest Union Army, there were not ten thermometers, and yet the thermometer had been a perfected instrument for one hundred and fifty years.

It does not seem to me that socialized medicine, or compulsory health insurance, is the particular thing which medicine needs to fear. There are many reasons why compulsory health insurance probably will not be applied or, if so, will be found wanting. However, certain evolutionary changes do appear to be taking place in medicine. Medicine, being a part of society, will mould itself and respond to those changes, probably with the pres-

ervation of the private physician. At no time in history has the physician been destroyed. We can follow the doctor from the days of Hammurabi, five hundred years before Christ, through the first medical guilds of Hippocrates, and then under the austere direction of the Roman dominion, to rise again in Spain under the Moors and Arabs. We can follow the doctor to Russia in 1917, when every class of society was destroyed except the proletariat and the doctor. The doctor class still survives even in Russia. There will be certain changes. It is not right to say to the medical profession, "You are responsible for the economic ills of this country." The solution of the medical problem will not solve the economic problem, nor is the medical problem the particular care of anyone except the physician class and the patients they serve.

Certain things seem to be inevitable. With the turn of the century, there came into being a sort of religious fervor for bigness, bigness by and of itself. We had tremendous skyscrapers, tremendous amalgamations of power in industry. This tendency was exhibited in our medical schools, in our centers and in our hospitals, some hospitals being erected with sixty per cent of the floor space used for purposes quite secondary to hospital services. It was found that these things were so big they were difficult to handle. At one time it was thought that the Eiffel Tower, if properly illuminated, would dispense with the ordinary regional incandescence for the city. So, the Eiffel Tower was illuminated. It was found that, if one was too close, it was blinding, and if one was somewhat remote, the shadows obscured the vision. It is a surprising thing that the most costly medical school in the United States today is sixth from the bottom in its failures in state board examinations.

Medicine, in the future, will become more and more individualistic. We shall meet changes in this medical organization. Compulsory health insurance is, in essence, a tax upon sickness. Two of the questions that proponents of health insurance fail to answer is, who is to pay for it, and how much will it cost? Mr. Aly, a proponent for compulsory health insurance, has stated that a comparable medical service can be purchased for ten cents per day per capita, and that does not seem exorbitant. Almost any of us would pay ten cents a day for good medical service. One fundamental requirement of an adequate medical service is that it must take care of all of the people. Compulsory health insurance only takes care of the best class of our society, the wage-earners, with their pay checks and their automobiles, a group that, by and large, and except in a catastrophic illness, is quite able to pay for

medical service. If we take the entire population of the United States, of 1929, on the basis of ten cents per day per capita, we reach the appalling total of \$4,453,000,000; and if, at the same time, we take the total wages received by all of the workmen in the United States (that does not include salaried people) we have \$34,485,000,000. In other words, this ten cents per day equals an amount of more than ten per cent of the wages received. If one takes the total amount received from salaries, wages, and commissions, it amounts to \$54,000,000,000. If one relates the figures of Mr. Aly to the national income they represent over four per cent of the total income of the United States in the flourishing years of 1928 and 1929. I think we could pay this; but the biggest problem of the medical profession would still be untouched, and I refer to the great class of indigents. In none of these schemes, to date, is the indigent taken care of. He still remains a charge on your hospital and clinic and medical system.

The indigent problem must meet and engage the attention of the profession. To my way of thinking, it is the whole problem. We believe that indigency is a local problem. The indigents shall receive medical treatment at the place where the indigency arises. We do not concern ourselves with the question as to whether that indigency is the result of bad habits, bad health, poverty, or maladjustment. The sick "ye have with you always," and the indigent is a problem of society. We believe that the indigent individual must be so recognized and registered, that we may know what the load is, and knowing, take care of it. The hospitals and clinics distributing that service to the indigents, and the doctors who render that service to the indigents, shall be paid. Where the money comes from is not particularly important, but there is the unjust social-political-medical situation of throwing this indigent class upon the community and the doctors. A system that protects only those who are best able to take care of themselves is socially and morally wrong. In the long run, what is wrong for society is wrong for doctors. Doctors will fare best under measures that best protect society.

I think the rôle of the individual physician is still paramount in the health situation. I think it would be a splendid thing if our larger county societies and our state societies discontinued the continuous barrage of lectures and debates about socialized medicine and compulsory health insurance. The people have had enough; and the headaches this country has are quite superior to any that result from the medical situation. The pattern of living may be different in a year or six months or two months, and all these bright ex-

pectations and flowery social hopes may be changed by conditions and by authority which render us inert; but that the medical profession shall survive is exhibited by a very recent experiment. In the neighboring province of British Columbia, the medical society got together with the politicians, or the euphemistically styled statesmen, and agreed upon a plan of medical service. It was decided that the indigent problem should be met by general taxation, and hospital clinics, and doctors should be paid for that service. When the bill was introduced, the entire indigent problem was omitted, leaving the problem exactly where it was before, and the society, in a vote of 119 against 13, agreed not to practice medicine, and the bill was not introduced. Therefore, we come back again to the political axiom that runs through the whole of time, that the people will have a political system or a medical system that is in keeping with their social and cultural and intellectual development.

I am proud of the historical significance of medicine. I am happy to be here in the state of Iowa. The medical profession has, of all groups, put its hand in the public treasury less than any of them, and, of its own free will, has maintained its independence scientifically and economically and, through the ages that have gone by and in the years that are to come, will preserve its independence, that society may be benefited by the best ministrations of health and hygiene that it is within the heart and mind of the medical profession to provide.

COLLEGE OF MEDICINE ANNUAL CLINICS

The annual clinics of the College of Medicine of the State University of Iowa will be held November 12 and 13. Papers and clinics will be presented from 9:00 a. m. to 5:00 p. m. on Friday, November 12, and from 9:00 a. m. to noon on Saturday, November 13, in the Medical Amphitheater of the University Hospital. Included among the guest speakers will be Dr. Verne C. Hunt of Los Angeles and Dr. Fred Falls of Chicago. A program of interest to all members of the profession will be presented, and all are urged to attend.

MAYO FOUNDATION LECTURES

A special program of lectures and demonstrations will be held under the direction of The Mayo Foundation, Rochester, from November 8 to 12, inclusive. Mornings will be devoted to clinics, while the afternoon and evening programs will consist of symposiums on gastro-enterology, sulfanilamide therapy, hematology, neurology, allergy, diseases of the chest and cardiovascular diseases. Visiting physicians are invited to attend.

THE SURGICAL AND HORMONAL TREATMENT OF UNDESCENDED TESTICLE*

JOHN W. DUNCAN, M.D., Omaha

Slowly but certainly surgery has added to its domain. Almost every portion of the anatomy is accessible to the scalpel, until now surgical attack is being made upon coronary artery disease. At the same time the use of drugs and biologicals to prepare patients for surgery, to prevent surgical complications, or to eliminate the necessity for surgery, is becoming common. Examples of this are the use of iodine in the preparation of the patient for thyroid operations, the administration of insulin to prevent diabetic gangrene, and the employment of the various ovarian hormones for treatment of the disorders of menstruation. In many cases the undescended testicle may be made to take its proper place in the bottom of the scrotum by the use of the anterior pituitary-like hormone obtained from the urine of pregnant animals. In other cases it may prepare the patient for operation. These hormones that often cause descent of the testicle will be referred to in this paper as Antuitrin S.

Undescended testicle is common. It occurs in about one in every 500 males, and about 25 per cent of these cases are bilateral. It is doubtful if heredity is a factor, although I now have identical twins, five years of age, under observation, each of whom has an undescended testicle. The explanations of non-descent have been various. The response to endocrine therapy has proved that the assumed causes of non-descent are erroneous in a large number of instances. Very probably the most powerful single influence to normal descent is hormonal. It is not the only factor involved, however; one testicle may remain undescended, while the other reaches a normal position, yet both were exposed to the same antenatal hormonal influences. At birth there may be bilateral non-descent and, under hormonal treatment one testicle will descend and the other will remain in the undescended position. While I am convinced that the testes will not descend without hormonal stimulation, it is obvious that in some cases there are other factors, probably mechanical obstruction, preventing normal descent. This fact suggests that in a considerable number of cases both hormonal stimulation and surgical treatment are required. This will be discussed later.

PATHOLOGY

Sir Astley Cooper once informed a medical student who consulted him for bilateral cryptor-

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chidism that he was unsexed; in other words, that he was like a castrate. Following this erroneous advice the young man promptly shot himself. We now know that in cryptorchidism the function of internal secretion of the testicular hormone is largely undisturbed. These males develop the usual secondary sexual characteristics and copulate normally in most cases. The other function of the testicle, that of external secretion or spermatogenesis, is absent in most instances, in bilateral cryptorchidism. While these males copulate normally probably not more than ten per cent are capable of procreation and this fertility lasts for only about a decade. With unilateral non-descent most males are fertile. Whether these undescended testicles are imperfect because of non-descent, or whether there is non-descent because of inherent imperfection in the testicle is not known. It is known that if an undescended testicle is brought into the scrotum either by hormonal treatment or surgery before or at puberty, it will assume normal spermatogenesis, and microscopic sections have shown these testes to be normal in every way from a structural standpoint. Carl Moore of the University of Chicago, in experimenting with lower animals, replaced normally descended testicles in the abdomen. The germinal epithelium and the tubules very quickly showed degeneration, and aspermia developed. When such testes were again placed in the scrotum they became normal within a short time. Beyond doubt, normal spermatogenesis is dependent upon the scrotal position of the testicle. Moore was able to produce the same condition of aspermia if he kept the scrotum wrapped in a heat-retaining dressing. This suggests that the scrotum acts as a thermo-regulating agent and provides the variations in temperature which are essential to spermatogenesis, since normally there is considerable difference between scrotal and intra-abdominal temperatures. This condition of aspermia in undescended testicle stresses the need for treatment before puberty arrives.

SYMPTOMATOLOGY AND DIAGNOSIS

All observing mothers and physicians know there is an extraordinary normal range of excursion of the testicles in young boys. This migratory type of testicle may be confusing at times. I have a patient now under hormonal treatment, a boy four years of age; one of the testicles is always in the abdomen and the other is there one-half of the time. It is never lower than the mid-inguinal region. This movement is to some extent voluntary. In some cases mere contact with the scrotum or an effort to palpate the normally descended testicle causes it to disappear from

sight and escape from grasp. The testicle becomes less mobile as puberty approaches and in true cryptorchidism the testicle is usually very small and undeveloped. I have never seen descent take place after puberty, although Drake of St. Paul reports one case in the tenth year, two cases in the eleventh, twelfth and thirteenth year, and one case in the sixteenth year.

About 90 per cent of the cases of undescended testicle are accompanied by congenital inguinal hernia, although two out of the last eight patients I have operated upon by the Torek method have had no hernia. This complication of hernia with non-descent is in no way influenced by hormonal treatment. It has been my experience in many cases, that the patient comes for the associated hernia rather than for the non-descent which I believe causes few symptoms *per se*. It is probable that both cord and testicle are more likely to undergo torsion with non-descent than with a normally placed organ. Some years ago in consultation, I saw a young man suffering from acute gonorrhea. It was extremely difficult to differentiate between an epididymo-orchitis in a right intra-abdominal testis and acute appendicitis. He was not operated upon and the former proved to be the correct diagnosis. Many observers think that undescended testicle may be associated with other physical or mental handicaps. Two out of sixteen boys whom I have treated for cryptorchidism in the last two years were somewhat retarded in school, although not obviously mentally deficient. One boy is thirteen years of age, and is in the fourth grade; the other is seven years of age, and is in the first grade. Another boy four years of age has bilateral painful flat foot. However, these three cases are from a dispensary group in which such deficiencies are commonly encountered. It has been believed in the past that there is a predisposition to malignancy in undescended testicle, and probably no question in medicine has given rise to more differences of opinion. However, this attitude is gradually being abandoned. Three cases of malignancy have been reported as developing in testicles following surgical placement in the scrotum.

PROGNOSIS AND TREATMENT

Some years ago Sir John Bland Sutton said "Surgical efforts to preserve or retain a partially descended testicle may be described as a supererogation." No one believes this now. Practically all cases of cryptorchidism can be successfully treated either by surgery or hormonal treatment, or a combination of both. If the testicles cannot be placed in the scrotum, I believe they offer little hazard to those who retain them. The earliest

reports of operation were usually castration. This is not frequently employed at the present time, although some adults prefer it to efforts to place the testicle in its normal position. Obviously the age at which operation should be performed is an important consideration. As has been stated, the undescended testicle retains its prepubertal structure. It should be in the scrotum when puberty develops. Fertility may be sacrificed if it is placed there after adult life is reached. I doubt if there is any advantage in treatment, either surgical or hormonal, at a very early age, and there are obvious disadvantages, although I have operated upon or given hormonal treatment to patients as young as four years of age. I believe an effort at correction should be made at or about puberty, unless an associated hernia requires earlier intervention.

Various surgical procedures have been described. One is that of Ombredonne in which the undescended testicle is placed in the opposite compartment of the scrotum. Bevan of Chicago in 1899 described an operation which was generally employed for a number of years. He divided and ligated transversely the hernial sac and the unclosed vaginal process high up. He stripped the remainder of this process from the cord down to the testicle. The scrotum was manually dilated, the testicle placed in it, and the external abdominal ring made smaller with a purse string. This operation was used upon the earliest cases I saw as an assistant, and I employed it myself for many years. Only rarely was it entirely satisfactory. The testicle remained in, or soon assumed a position at, the external abdominal ring or above. Bevan insisted that with proper care, the testicle could be satisfactorily placed in the scrotum in 90 per cent of the cases. Burdick and Coley reported satisfactory results in a large series of cases in only 50 per cent. In ten per cent Bevan said it was necessary to divide the spermatic vessels. After a long series of rather unsatisfactory results I employed this procedure in one case. The result was gangrene of the testicle, not uncommonly experienced by other operators.

In 1909 Franz Torek described a very satisfactory operation for undescended testicle under the title of "The Technic of Orchiopexy." Under this heading the article was practically buried in the literature, because those who were interested in the subject of undescended testicle rarely searched for information under that title. A report of 60 cases operated upon by Willy Meyer with this technic gave practically 100 per cent perfect results. Insofar as the handling of the cord and the hernia is concerned the technic does not differ essentially from that of Bevan. After this is

properly disposed of the scrotum and testicle are sewed to the thigh. This operation has obvious advantages; we can be assured that the testicle will remain well down and that the scrotum will develop normally. I have operated upon eight patients by this technic with 100 per cent satisfactory results. In four to eight weeks the testicle can be detached at a second operation with two or three days' hospitalization. I usually allow the testicles to remain attached for two months; in one patient the period was eight months. These boys have no disability, nor even any discomfort from the abnormal position of the testicle. One boy, a Mexican, with bilateral attachment, rode horseback the day before I performed his second stage operation. In cases of bilateral non-descent, usually only one side is operated upon at a sitting. At the second sitting the second attachment and the first detachment are made. Three of my series of eight patients operated upon by this method were cases of bilateral non-descent. In one, both testes were attached at the same sitting. The chief danger of bilateral operation, I believe, is infection with loss of the testicles. One such case is reported in the literature. Wangenstein and others have reported modifications of this operation. In these operations the tunica or the gubernaculum, rather than the testis, is sutured to the thigh. I do not believe these modifications are important or have any particular advantage.

The indiscriminate use of pluri glandular extracts or hormones in treatment of disease is to be condemned. Hugh Cabot has spoken of this as a "therapy with endocrinologic soup". The possible dangers of the indiscriminate use of Antuitrin S in the treatment of undescended testicle will be referred to later. The use of this substance was first reported by Schapiro in 1930. Accustomed as we are to the sometimes far-reaching and almost bizarre effects from the use of active glandular extracts, the results from the use of Antuitrin S in some cases of cryptorchidism are almost startling. The testicles do not function independently but are controlled by the key endocrine gland of the body, the pituitary gland. The anterior part of this gland secretes a gonadotropic hormone. Without this the testicle will not properly develop nor will proper descent take place. In the macaque monkey descent of the testicles does not take place until puberty; however, under Antuitrin S they descend rapidly even in the prepubertal age. The powerful effect of this hormone has also been shown by Geschichter, Dean Lewis and others. With it in the monkey they produced prostatic hypertrophy to the point of urinary obstruction. The rate at which descent of the testicles takes place under Antuitrin S in some boys is remark-

able. I have seen an intra-abdominal testicle reach the scrotum in twelve days. It is my practice to give 100 rat units of Antuitrin S or follutein three times weekly for eight weeks. If descent does not take place, it is assumed that there is some mechanical obstruction and operation is required.

It is well to consider the possible harmful effect of the injection of this powerful hormone over long periods of time. While non-descent seems to be proof of deficiency and need for the hormone, this is not always true. I believe the drug is most clearly indicated in cases of bilateral non-descent, where the external genital organs seem to be undeveloped. Patients in this class usually respond very quickly. Not only does descent take place but normal development of the external genital organs occurs. Some of the boys whom I have treated for unilateral non-descent apparently had normal genital development for their age. The rapid enlargement of the penis and scrotum of these boys not yet at the age of puberty was disturbing. I remember especially one child who responded very rapidly; his genitals grew larger and after the third injection the slightest contact with the genitals brought about erection. The testicle did not descend and an operation was later required. In another case, through error, 1,000 instead of 100 units were given. The undescended testis became three or four times the normal size, was hot and tender, and the child seemed quite ill. At the last examination the testicle was in the scrotum but smaller than its fellow. There are reports of acute swelling of the testicle and fever to the extent that it has been necessary to discontinue treatment. Nocturnal emissions have also been initiated.

It is true that these possible harmful effects from the hormone apparently disappear as soon as it is withdrawn and I do not know that in any case puberty has been initiated; but undoubtedly precocious sexuality can be developed, at least for a time. I believe one should always consider the possible harmful effect of a disturbance of the delicate endocrine balance. The hormone should be used with caution and its effects should be carefully observed. If descent does not take place with moderate dosage, continued stimulation of the gland by the hormone should not be produced; an operation should be performed. I also doubt whether boys younger than nine years of age should be given the hormone. At this age puberty is impending and little, if any, harm will result from its use. In all cases I believe a trial of the hormone should be made. In some cases complete descent will not take place but there will be enough improvement in the position of the testicle so that operation will be made easier and more

surely successful. An intra-abdominal testicle which is very hard to place in the scrotum by surgery alone can often be made to descend as far as the external abdominal ring. From this position surgery easily places it in the scrotum. In none of the literature, as far as I know, has anything been said about the treatment of the hernia that accompanies 90 per cent of these cases of non-descent. This will, beyond all doubt, at some time require treatment by surgery or injections, and, is another reason why too prolonged use of the hormone is inadvisable, since surgery will be required in any event for cure of the hernia.

ADVANTAGES OF BIOMICROSCOPY IN CERTAIN CASES OF BEGINNING OCULAR PATHOLOGY*

WAYLAND H. MALOY, M.D., Shenandoah

Since the slit lamp was first demonstrated by Gullstrand in 1911, a large number of ocular pathologic conditions have been clarified, although most of these observations have been made in comparatively recent years. The microscopic study of the living eye has become so important, not only in investigation but also in diagnosis, that it is practically indispensable. A fundamental working knowledge of this subject is now one of the requirements for certification by the American Board of Ophthalmology. It has been suggested that the type of paper best suited to the interest of the majority of the section would be one dealing with the practical advantages of the slit lamp microscope in daily routine practice. The discussion is presented from this point of view, because it has been considered that this method of examination should have a wider use. For the most part, the writings of Koeppe,¹ Koby,² Vogt,³ and Graves⁴ have been used for reference.

In construction and manipulation, the slit lamp may seem rather complicated at the outset. As to the mechanical part of manipulation, this improves rapidly with persistent practice; as to the physics involved in the composition of the slit lamp proper, this need especially concern one in its use as an instrument of diagnosis; although it is recognized that the most efficient use of the slit lamp microscope requires a complete understanding of the optical principles utilized. The interpretation of what one sees is the more difficult and the more important. An example of possible error of interpretation is the reduplication of a scar projected to the posterior face of the cornea in the form of a shadow from the anterior face of the cornea. As a further illustration, it is important to know how to avoid the dazzle of specular reflection in

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examining a keratic precipitate by direct retro-illumination, or to take advantage of specular reflection in studying the hexagonal endothelium of the cornea. For many similar reasons, it is necessary to have a knowledge of the reflection of light by the ocular media, and a thorough knowledge of the various methods of illumination with the slit lamp. Koby has classified the methods of illumination into four types: first, direct focal illumination; second, indirect illumination; third, transillumination (retro-illumination); and fourth, examination in the zones of specular reflection (mirror illumination of Koeppe). This classification is further subdivided and rearranged by Koeppe and Graves. The methods of illumination will be referred to in the discussion to follow, but time does not permit any detailed description of them.

CHANGES IN THE TRANSPARENT MEDIA

The slit lamp is useful in studying the normal anatomic structures of the eye, congenital anomalies, senile changes, and a great variety of pathologic conditions. In general, the instrument can be used to study any of the refractile, responsive, or relucient features of the transparent ocular media. It is not possible to see more than one-third of the distance in the vitreous without a contact lens. Certain conditions accounting for poor vision, not readily discernible with the ophthalmoscope or loupe, are observed to advantage by biomicroscopy. In the cornea, fine opacities, punctate epithelial lesions, dystrophies, defects in curvature, abnormal thickening or thinning, and vessels may be studied; while in the lens the various types of cataract and curvature defects may be studied. A common use of the slit lamp of practical value is the examination of a wound after the removal of a foreign body to see that the bed is clean and smooth. In loss of vision, not otherwise explained, Jackson has emphasized the importance of finding a very small opacity with the slit lamp at the posterior pole of the lens, as this area is one of the nodal points of the dioptric system. Small pathologic areas in the cornea are often made visible by the method of "sclerotic scatter," which has been described by Graves. In this method, light from a wide angle of incidence focused on the sclera near the limbus, is reflected through the cornea to render visible responsive areas by a scattering of light.

LOCALIZATION

Localization is of importance in ocular pathology in the use of the biomicroscope. The optic section lends itself to a useful purpose in this respect. Good binocular vision by the observer is essential. In studying the cornea, it is well to re-

member that the apparent thickness of the cornea varies with the incident angle of the light and with the angle of observation. In intra-ocular foreign bodies it is important to ascertain the point of entrance and the pathway of the foreign substance as an aid to localization. Localization in the cornea is accomplished by studying the stereoscopic relationship of the pathologic area with the planes of what Graves calls the illuminated corneal "block," and in the lens, the stereoscopic relationship with the zones of discontinuity and the anterior and posterior poles of the fetal nucleus. The block is produced by a widening of the slit of the lamp, while optic section is the term employed by Vogt when the slit is made very narrow.

Certain phases of five common ocular diseases have been selected to illustrate the practical advantages of early pathologic studies at the slit lamp; namely, acute nonspecific iridocyclitis, tuberculous nodular iritis, parenchymatous keratitis, trachoma, and compensated glaucoma.

Acute Iridocyclitis: In iridocyclitis, cells in the anterior chamber are localized either in the narrow slit of the optic section or in the round pencil of light. If the particles are very small and few in number they may be found more readily by oscillating the lamp. Koeppe calls this oscillation illumination. As a result of the differences in temperature at the corneal and iridic surfaces, the particles descend anteriorly and ascend posteriorly, and the speed of the movement is modified by the viscosity of the aqueous. When cells and fibrin are present in moderate amounts there is an increased relucency and a visible flare in the aqueous. Fibrin obstructs the view like "smoke" or "dust," but may appear in filaments also. In addition to cells and fibrin, pigment particles may be observed, but the latter are more commonly found in chronic iritis. Pathologic cells may be present before there is gross evidence of iridocyclitis. Particles collect on the corneal endothelium, particularly in the lower one-third. Groupings of cells and fibrin are called clump precipitates by Koeppe, who uses the name "precipitates" for accumulations of pathologic cells. They appear white by direct focal illumination. The precipitates vary in size to some extent in different types of iritis.

Tuberculous Nodular Iritis: Nodules may be found in early tuberculous iritis. They occur most frequently at the pupillary border, where they appear as small white collections of exudate, but may be found in other parts of the iris. They usually do not form synechia unless they are large. The lesions are not true tubercles, as tubercle bacilli are not found, and caseation and vascularization do not occur. Koeppe nodules are made up of lymphocytes, epithelioid cells, fibrin, and some-

times pigment particles. They often disappear in the course of a few days. O'Brien⁵ states that nodules occur in about thirty per cent of anterior uveal tuberculosis. Very large keratic precipitates occur on the endothelial face of the cornea, often triangular in shape with the apex upward. These precipitates are described by some writers as lardaceous or mutton-fat deposits. The findings in the aqueous are that of any acute iritis previously described. White appearing nodules at the pupillary border and very large precipitates on the endothelium of the cornea are strong evidence that the infection may be tuberculous, but the condition must be differentiated from sympathetic ophthalmia and syphilis. According to Koeppe, syphilitic nodules usually do not occur at the pupillary border, but their presence in the sphincter of the iris is suggestive of syphilis. Sympathetic ophthalmia may also show nodules at the pigment border and large deposits on the endothelium of the cornea. In sympathetic irritation pathologic cells are not found in the anterior chamber.

Parenchymatous Keratitis: The findings in parenchymatous keratitis are bedewing of the epithelium and endothelium seen best by transillumination, cloudy edema in the stroma, thickening of the cornea toward the anterior chamber, folds in Descemet's membrane, and later deep vascularization of the cornea. The location of blood vessels in the cornea often gives a clue to the diagnosis in some corneal diseases. In luetic parenchymatous keratitis, vessels are found in the deepest layers of the corneal stroma and are in relation to the cloudy exudates, whereas the vessels of tuberculous parenchymatous keratitis are found in the middle and inner thirds of the stroma. They have a reddish color by retro-illumination and a white appearance by direct focal light. Vessels entering the cornea from the limbus are found at the same level both in the cornea and the limbus as in any type of vascularization. The corneal nerves are likely to be more prominent from swelling. Folds of Descemet's membrane are seen as dark bands in focal light. In the zone of specular reflection, folds in Descemet's membrane are seen as dark lines in front of the hexagonal endothelium.

Trachoma: Trachoma is such an important and widespread disease that its differential diagnosis confronts the oculist most every day. In many cases of conjunctivitis, at the time of the first examination, it is important to be certain one is not dealing with early trachoma. There is no better way of avoiding this error than an examination of the upper limbus for pannus with the biomicroscope. Failure to find pannus at the upper limbus renders the probability of trachoma unlikely. Tra-

choma is said to be as much of an infection of the cornea as the conjunctiva and occurs about the same time as the conjunctival invasion, and, therefore, is not necessarily a complication of conjunctival trachoma. Early active pannus is characterized by the extension inward from the translucent limbus of dilated capillary loops, by subepithelial infiltrates, and by punctate epithelial lesions. This biomicroscopic examination of the limbus in trachoma has been called to our attention by Thygeson.⁶ Incipient pannus can be demonstrated in Stage I trachoma; and in Stage II trachoma, pannus is always demonstrable with the biomicroscope. Thygeson differentiates early trachomatous pannus from a wide limbus and the extension inward of vascular loops seen at times in chronic conjunctivitis.

Compensated Glaucoma: Deep pigmentation and atrophy of the stroma of the iris precede any other findings in compensated glaucoma, according to the teachings of Koeppe. He emphasizes the deep pigmentation in the form of fine dust particles in the lymph spaces of the stroma of the iris, rather than superficial pigment deposits which are found in other conditions, most notably in senile changes. The deposits are best studied in the blue iris. The migration of pigment is said to be from the posterior (ectodermal) layer. Koeppe presents this theory of a blocking in the lymph spaces to the canal of Schlemm, as one of the causes of glaucoma simplex. Barkan's⁷ operation of opening Schlemm's canal under magnification, with a contact lens placed on the glaucomatous eye, is based on a blocking by pigmentation and by sclerosis of the trabeculum between the anterior chamber and Schlemm's canal. Vogt, Gradle, and others, are of the opinion that the pigmentation is due to senile changes. The finding of pigment in the stroma of the iris and in the angle, as described, should be of value in cases of cataract with good light perception and projection.

SUMMARY

The importance of biomicroscopy is called to the attention of the section by discussing briefly a number of ocular conditions where information has been obscure, or entirely lacking, prior to slit lamp studies. Beginning biomicroscopic pathology in five common ocular diseases has been described; namely, acute nonspecific iridocyclitis, tuberculous nodular iritis, parenchymatous keratitis, trachoma and compensated glaucoma.

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ADVANTAGES AND DISADVANTAGES OF SOME NEW PROCEDURES IN CATARACT SURGERY*

E. P. WEIH, M.D., Clinton

There are many statistical reports in the literature dealing with results of a series of operations. There are annual hospital reports, recounting the number of cataract operations, which nobody reads; but, there are not many critical summaries of cataract surgical experiences. The present communication aims to present a critical review of some of the new procedures in cataract surgery.

E. Grósz¹ believes it is advisable to wait for the maturation of senile cataracts with immature cataract in one eye and good vision in the other; the cataract should not be operated upon. If the cataract in one eye is mature and the other eye is unimpaired, and if the patient displays general good health, the cataract should be removed, for the hypermaturation of the cataract in later years may be accompanied by unavoidable complications. If senile cataract develops in both eyes, the social condition of the patient often makes it necessary to operate before maturity. In general, when a cataract interferes with a patient's performing his work, the cataract should be removed. There is no sign which would indicate, beyond a doubt, that a given cataract is ripe for extraction. The ease of extracapsular extraction of the cataractous lens has nothing to do with the degree of opacity. There are certain cataracts which always remain localized in the nucleus, and accordingly never become "mature." Such a nuclear cataract is operated upon with greater satisfaction than the others. Unfortunately, some ophthalmic surgeons believe that this type of cataract cannot be operated upon because it is not "ripe." This works a hardship on the patient affected, who would benefit by an easy operation, which in this form of cataract gives most excellent results. Study of the patient's intra-ocular tension by means of the tonometer is important. When the tension is at lower levels, experience has shown that manipulations may be more extensive without loss of vitreous. Lower tensions should be brought up with the use of atropine, and tensions that are higher should be brought down by the preoperative use of pilocarpine.

Emory Hill² after the use of several sedatives, has abandoned them, and now uses sodium bromide and chloral hydrate, grains fifteen of each, the night before and again one hour before operation. In my experience this has proved a most innocent sedative. The use of morphine and codeine has been discontinued because of fear of vomiting and nausea. There is an occasional patient who has an idiosyncrasy for hyoscine and barbituric acid preparations, such as sodium amytal, frequently making the patient restless and irritable. They often cause patients to get up and out of bed. A four per cent solution of mercurochrome in double distilled water is used to sterilize the infective conjunctiva, and the use of this solution enables one to operate successfully in a number of cases in which surgical intervention would otherwise have been absolutely contraindicated by the pathologic conditions of the conjunctiva. I am of the opinion that there is no ocular antiseptic to equal this one.

We formerly used the Van Lint method of akinesia, but, since 1927, we have substituted the O'Brien method, because the orbicularis can be more easily reached and more certainly paralyzed, with less liability of spasm of Mueller's muscle. The only advantages of the injection of novocain around the lids is that you also obtain a certain amount of anesthesia, so that a widely opened speculum will not hurt. Much attention must be paid by the surgeon to the so-called bad acting of the patient. This condition is preventable, and is a reaction by the patient to the operative procedure. It is advisable to inject novocain into the retrobulbar region. Formerly, surgeons attempted to inject the ciliary ganglion, but since there is much danger of injury to the optic nerve, a better method is to inject into the muscle cone. A needle should be 3.5 centimeters in length. I prefer to use one cubic centimeter of a two per cent solution of novocain, instead of four per cent as advocated by many. One drop of adrenalin should be added to each ten cubic centimeters of solution. The patient should be directed to look upward and toward the nose. The needle should enter the skin just above the lower orbital margin and between the external and inferior recti muscles. The needle should be directed upward and backward, so that it will be directed back of the eye ball and should be injected slowly, to avoid a proptosis. One is tempted to inject more than one cubic centimeter. This will cause complete anesthesia of the globe; all muscles except the superior rectus are rendered insensitive to traction, and the patient cannot look downward; therefore, it becomes necessary to bridle suture the superior rectus muscle. This bridle suture

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was introduced by Kalt, in 1914, and advocated by Elschmig. It is best to inject one-half of a cubic centimeter of solution into the superior cul-de-sac to catch the superior rectus muscle. A surgeon who relies on telling his patient to look down is far behind the times. The securing of orbital anesthesia by novocain has proved to be an immense step forward.

If one wishes to perform an iridectomy after retrobulbar anesthesia, it is best to do it about ten degrees nasally, because one must allow for some torsion of the globe. A midline coloboma looks better than one off center. Two drops of adrenalin injected subconjunctivally at the lower limbus will aid and insure dilation of the pupil after the anterior chamber has been emptied. We may use a two per cent solution of epinephrine bitartrate, and many prefer it to atropine as a mydriatic. It also lowers the ocular tension and lessens bleeding. Maximal mydriasis is absolutely necessary, especially if we wish to leave a round pupil. It is important to inject a small amount of novocain at the edge of both lids near their middle, so that a suture can be inserted and tied together after the operation has been finished. This will keep the lids closed and prevent many complications.

Van Lint³ uses the ultraviolet lamp in cataract extraction. Owing to the fluorescence imported to the crystalline lens by ultraviolet light, the latter is indispensable in extraction of luxated or subluxated lenses, and is useful in intracapsular extraction. It facilitates aspiration of detached lens matter, and in soft cataract and in extraction of the transparent lens of myopia, it enables one to see the lens tissue more easily, and thus render the operation less dangerous. Hildreth⁴ has recently described such a lamp. McCool⁵ uses multiple sutures for controlling the lids in preference to specula or lid hooks. I like the Arruga speculum very much and tie the bridle suture of the superior rectus muscle to it. This gives excellent fixation. Speed is not an important consideration, lest the patient at any moment acts badly. We can now take our time, insert complicated or difficult stitches. We have time for careful toilet and leisurely removal of the lens. Today we know that a large incision is not a great source of danger, as was the too small incision. Two-fifths of the cornea is usually enough; sometimes one-half of the cornea is better. It is important to reach the top of the anterior chamber, or at least to pass the edge of the pupil with the first forward and upward thrust of the knife. This is made rapidly, before the aqueous liquid escapes enough to permit the iris to move forward, where it will be lacerated by the knife. Then the incision can be

completed in more or less leisurely fashion, with lessened force, so that the last few fibers are severed with no sudden jerk of the knife.

Some form of conjunctival flap, I believe, is definitely effective in cataract surgery. The principal service of the flap is not to hold back vitreous substance that threatens to escape, but to prevent eversion of the corneal flap and to contribute a sure, rapid, smooth and uncomplicated process of healing. The flap is usually made with a cataract knife at the completion of corneal incision. The conjunctival flap can also be accurately fashioned before the incision is made, and two sutures inserted before the delivery of the lens will almost invariably maintain satisfactory closure of the lips of the incision. Sutures to safeguard the eye should be simple and should be capable of being introduced with care and speed and fastened with dispatch. Sutures do not always secure perfect anatomic apposition, and frequently cause depression of the edges of the wound. While attempting to strike a balance between the advantages and disadvantages, it may certainly be stated that the use of the suture is increasing rapidly in all parts of the world. Sutures seem to be most necessary in patients with prominent eyes, high myopia, fluid vitreous, and unruly patients. A good conjunctival flap, without suture, will become adherent in a few hours. The upper eyelid is an excellent splint to hold the flap in place. I use the conjunctival suture in the exceptional cases and not as a routine measure. Numerous authors advise the use of human hair for suture of the conjunctiva, because it is very soft and does not irritate the eye. In some cases where the anterior chamber is very shallow, some surgeons dissect up the conjunctival flap and perform a keratotomy with a narrow lance, the point of which is introduced behind the flap, and then enlarge the incision with blunt-nosed scissors. They claim this gives much better results, as regards cicatrization, and absence of astigmatism. Elschmig's method of using a knife in these shallow chambers is excellent. Howard⁶ increases the depth of the anterior chamber by irrigating it with warm physiologic sodium chloride solution, using a No. 29 needle inserted in an opening, made with a cataract knife, in the limbus, just before the operation. In the ordinary case a satisfactory flap can be fashioned with the knife at the finish of the corneal section. Conjunctival hemorrhage can be prevented by the previous injection of cocaine and adrenalin solution subconjunctivally. The most ideal results have been achieved in my personal practice when an uncut conjunctival bridge has been used. It is somewhat more difficult in execution, but makes

for safety and prompt recovery. The iris should be treated with a view to the prevention of prolapse. A regular iridectomy does this, but, a basal buttonhole iridectomy, in which the sphincter is not cut, is even better as a preventive measure. I do not do an iridectomy except in very restless patients. I dislike complete iridectomy for esthetic and optical reasons, and because of the greater ease with which the pillars of the coloboma become incarcerated in the wound.

The first execution of an intracapsular operation was attributed to Daviel, and its technic was very explicitly described by Pellier de Quenvy, Jr., in 1851. It was Wayne Henry Smith, in 1903, who revived the interest in this procedure. The Indian expression operation was deemed too brutal and, therefore, failed to find imitators. The ingenious method of Barraquer led to total extraction getting serious consideration. It was from studies of his method that experiments were undertaken by Stanculeanu, Knapp, Török and Elschnig. It is only just to recognize the fact that in France, as early as 1909, Kalt had successfully performed total extractions with a forceps that bears his name. It was opposed from the beginning because it was thought that it would provoke serious lesions in the ciliary region of the retina and vitreous solution. Their fears, experience has shown, were unfounded, and it was discovered that the suspensory ligament of the lens is quite fragile and it becomes weaker after the age of fifty years. Traction exerted on the suspensory fibers through the intermediary of the anterior capsule, causes them to break near their insertion on the capsule, leaving the epithelium of the pars ciliaris retinae and that of the hyaloid body intact. Contraindications at first were thought to be numerous, and were related to the state of the eye, such as myopia, glaucoma, iritic adhesions, dislocation of the lens, and constitutional states, such as diabetes and high blood pressure. Discussions on these points have been rife, and at the present the contraindications have become extremely rare. One may say that the age of the patient alone seems to be a factor and that the intracapsular operation cannot be attempted with any prospect of success unless the patient is twenty-five years of age.

Arruga⁷ has given us an excellent capsular forceps, which has smooth, parallel, grooved blades, with a rounded inferior surface. The blades are grasped evenly, but not too tightly. The forceps should be held with thumb and fingers near the center of the instrument. An opening of two millimeters between the blades is sufficient. The larger the fold of capsule between the blades of the forceps, the more the relative tension, and extreme

stretching of the capsule, with a greater tendency to rupture. In spite of the steadily increasing popularity of the intracapsular extraction, details of the technic are freely debated. Its advantages are that it allows one to operate long before complete maturity of the cataract, thus freeing a large number of patients in whose case opacification of the lens is proceeding very slowly. Among these one finds the myope, whose cataract often remains incomplete and consequently inoperable, if one relies on the classic extracapsular operation. A minimum amount of trauma to the tissue of the eye is important. This is illustrated by the slight reaction after intracapsular extraction; the more rapid convalescence than with the older methods; and the absence of serious complications, such as secondary glaucoma, secondary cataract, or late epithelial activity, which occur a year or two after operation. The eye is left in as nearly a normal state as possible after the lens is removed. The cosmetic result is very much superior owing to the preservation of a round pupil. Herniation of the vitreous matter is rarely observed. Most operators claim better visual results. Mueller's results in Vienna show that the vision is about the same with the intracapsular as with the extracapsular extraction. This operator is very expert in removing a large piece of anterior capsule with the capsular forceps. Parker⁸ states that in 450 cases the visual results were about the same in the extra- and intracapsular cases. There was about three times as much vitreous loss in the intracapsular cases; whereas the operation for secondary cataract was four times as frequent in the extracapsular type. Any method that requires but one operative step, rather than two or three, should receive careful consideration. Most patients are well along in years and dread the necessity of going to the hospital two or three times to secure results in a single eye. Each operation adds to the trauma of the tissues of the eye and multiplies the exposure to infection. The added expense is a matter to be considered also; but, after all, the end result is the criterion by which one should judge. When the complications and advantages of the several methods are carefully weighed, there is little opportunity for doubt as to the better end result in intracapsular work.

There is much more iris prolapse when iridectomy is performed than when a peripheral iridectomy is performed. The iris being replaced, you can grasp it at the periphery and cut off a very small piece. One cannot compare the extracapsular and the intracapsular methods to find out which is the best operation, because there are definite advantages to each method, which depend on the patient, the type of cataract, and the opera-

tor's experience. The extensive experience of Henry Smith shows that by tumbling the lens, the intracapsular extraction is freed to a great extent of the danger of the loss of vitreous fluid. The accomplishment of the maneuver of tumbling can be obtained only by grasping the capsule as low down as possible, so that the lowest zonular fibers are torn. After subluxation, with forceps either remaining in contact or released, pressure at the lower corneal margin causes the lens to tumble. If the capsule should rupture, the capsule will be torn in the pupillary area. It is always best to be conservative if the zonular fibers do not rupture after a reasonable amount of traction, and the attempt at intracapsular extraction should be abandoned and the extracapsular operation followed. Wright⁹ states that in his twenty thousand cataract cases the mouths of the majority of his patients were so bad it was impossible to take much notice of this condition. Their bad mouths did not seem to affect the results of his operations in any way. I am certain that this is not the experience of our American surgeons, and that we must have clean mouths before attempting cataract surgery. Kirby¹⁰ makes an attempt to rupture the lower zonular fibers by applying carefully graduated pressure with the point of the lens hook just within the corneal ring and before the forceps are applied to the lens capsule. This works beautifully if the capsule does not rupture. However, if we have a ruptured zonula and then get a ruptured capsule we are certain to have complications.

The advocates of the suction method of removing cataracts claim that their technic will rupture fewer capsules than any of the forcep technics. In their opinion it is the operation of choice, especially in immature cataracts. Extraction with the vacuum apparatus, while it gives a large proportion of brilliant results, gives also a fatally large proportion of bad results, and in my opinion is not worthy of general adoption in the state. The intracapsular extraction is a procedure of the future, and it is up to us as ophthalmologists to acquaint ourselves with all its details. The method of procedure is a matter of choice of the operator. If he performs a considerable number of operations, he will develop a technic peculiarly his own, whether he delivers by external manipulation, by the use of forceps, by suction, or by a combination of these methods. I am of the opinion that any surgeon with sufficient skill to perform a capsulotomy successfully, can operate by the intracapsular method. Capsulotomy with the capsule forceps ranks far ahead of the cystotome in permitting extraction of the lens and removal of cortical matter. From the surgeon's standpoint the problem is purely an individual one. He must

decide for himself. He must consider his own temperament and material qualifications of mind, and be influenced by a knowledge of his own surgical dexterity. If he decides that the lens should be extracted by the capsule, and he is so qualified to extract it, he should study all the methods and should adopt one which best suits his hands. The patient's welfare is and always will be the first consideration.

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Discussion

Dr. Edwin Cobb, Marshalltown: There are a few points I would like to emphasize in Dr. Weih's well written paper. From experience I like to make a cataract operation as simple as possible, avoiding any unnecessary movements for the operator and as easy and comfortable for the patient as possible. Whether one should perform an intracapsular or a capsulotomy operation depends very much on the condition of the eye. I prefer and try to do the extraction by the intracapsular method whenever possible, but in the presence of high myopia with floaters, diseases of the choroid, increased intra-ocular tension or a rigid pupil, then the capsulotomy method is selected. In patients with one eye blind I would be inclined to do the extracapsular method. Wright of Madras, India, in his series of lectures on cataract surgery appearing during recent months in the *American Journal of Ophthalmology*, states that he is only able to do the intracapsular method in 30 to 40 per cent of the cases; whereas, in the Mueller and Linder clinics in Vienna the intracapsular method is used in as high as 70 to 80 per cent. In several of the largest clinics it was found that the ultimate vision was practically as good in the capsulotomy cases as in the intracapsular cases. An eye in which the cataract has been extracted by the intracapsular method with the round movable pupil and small peripheral iridectomy, appears as a normal looking eye, and I am sure is very much appreciated by the patient.

There are a few points in the preparation and

technic that I would like to mention. Homatropine is used in place of atropine, since the pupil will contract immediately after the intracapsular method. The night before the operation the patient should be given some sedative, such as luminal, to obtain a good rest. Twenty grains of calcium lactate is also given at this time. Two drops of homatropine, two per cent, is instilled in the eye the evening before and again in the morning before the operation. An hour and one-half to two hours before the patient is brought to the operating room he is given 50 to 100 grains of sodium bromide per mouth. If the blood pressure is over 150 then 200 to 300 cubic centimeters of blood are withdrawn at this time. Cocaine drops are instilled, the adjacent skin area thoroughly cleansed with benzine and painted with a two per cent solution of mercurochrome, and the eye irrigated with a 1/3000 bichloride solution. Good cataract surgery demands complete and thorough anesthesia of the eye and surrounding tissues. There are three important points I wish to emphasize in the operation:

1. Complete lid injection by using an ample quantity of two per cent novocain in the upper and lower lids and in the facial and temple regions.

2. A retrobulbar injection of one cubic centimeter of two per cent novocain, great care being taken to avoid injuring the orbital vessels. Six to eight minutes are allowed for this solution to take effect.

3. The superior rectus muscle, the anesthesia of which is obtained by holding a moistened adrenalin swab saturated with cocaine flakes directly over the muscle. One drop of 20 per cent cocaine on the cornea, followed with a drop of 25 per cent argyrol, then with Elschmig's scleral forceps, and with the nurse holding an upper lid retractor with the superior rectus suture. A good half section is made with a medium sized conjunctival flap. One or two human hair sutures are then placed in the wound and retracted to one side. Later additional sutures may be required.

Now, if we have a fairly well dilated pupil with none of the above contraindications present, then I employ the intracapsular method using the Arruga capsule forceps, obtaining a grip on the very lowest part of the capsule. With external counter-pressure now being made, the lens should tumble out very well. A small peripheral iridectomy is performed and great care is taken to stroke the iris back in place, thus obtaining a round, movable pupil. If in these cases I find things are not going well, I do not hesitate to change and do a capsulotomy with complete iridectomy, because one must obtain the best vision and readily sacrifice the intracapsular method when necessary. In the extracapsular extractions some of the best surgeons now prefer to remove a large flap of the anterior capsule with the knife while making the section.

Another technical point during the operation is to have a sterilizer going near the instrument table in which every instrument is dipped just prior to being

used in the eye, and after its use it is again dropped in the sterilizer. Even the sutures are run through the sterilized solution before entering the eye. Eserine is instilled in the intracapsular cases and atropine in the capsulotomy cases. A fresh solution of 25 per cent argyrol is used and with bichloride ointment the dressing is applied to the patient's eyes. If both eyes are operated upon, ten cubic centimeters of boiled milk are given at the close of the operation. These patients are then returned to their rooms and placed in cataract beds where they can be moved about very early. In some cases they may be sitting up in bed in the afternoon and in a chair the next day. Elderly people seem to recover faster when up and around. As Dr. Weih has well stated, one should do the method in which he is best qualified, to obtain the finest visual result with the least possible risk to the patient.

OSTEOGENIC SARCOMA*

JOHN T. HANNA, M.D., Burlington

Bone sarcoma is primary cancer of bone. There are many varieties and classifications. The standard classification is that adopted by the Committee on Bone Sarcoma of the American College of Surgeons, in 1923, as follows:

- I. Metastatic tumors.
- II. Periosteal fibrosarcoma.
- III. Osteogenic tumors.
 - A. Benign.
 1. Exostosis.
 2. Osteoma.
 3. Chondroma.
 - B. Malignant (osteogenic sarcoma).
 1. Anatomic types.
 - a. Medullary and subperiosteal.
 - b. Periosteal.
 - c. Sclerosing.
 - d. Telangiectatic.
 2. Undifferentiated sarcoma.
- IV. Inflammatory conditions that may simulate bone tumors.
 - A. Myositis ossificans.
 - B. Osteoperiostitis.
 1. Traumatic.
 2. Syphilitic.
 3. Infectious.
 - C. Osteitis fibrosa.
- V. Benign giant cell tumor.
- VI. Angioma.
 - A. Benign.
 - B. Malignant (angiosarcoma).
- VII. Ewing's sarcoma.
- VIII. Myeloma.

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In 1927, Kolodny¹ compressed this classification into four groups: osteogenic sarcoma, Ewing's sarcoma, myeloma, and borderline and other unclassified sarcoma.

One of the simplest classifications is that of Campbell² in which he lists all bone tumors as: first, osteogenic or those derived from elements which are factors in the formation of bone; and second, non-osteogenic or those derived from tissue contained within the bone, but which is in no way connected with the formation of bone (marrow cells, epithelial and lymph and blood vessel cells). He divides osteogenic tumors into benign and malignant groups. The benign group includes osteoma, osteochondroma, chondroma and giant cell tumors. The malignant or sarcoma group includes osteolytic sarcoma, chondromyosarcoma, chondroblastic sarcoma, chondrosarcoma, fibrosarcoma and osteoblastic sarcoma. The tumors in his non-osteogenic group are all malignant and include endothelial myeloma (Ewing's tumor), myeloma and periosteal fibrosarcoma. This discussion will deal with osteogenic sarcoma as above classified; being defined as a malignant degeneration of osteoblasts or structural elements of bone.

Incidence. Osteogenic sarcoma is a rare disease, there being one reported case per approximately 100,000 population in this country. Neither social conditions nor sex appear to affect its incidence. Age is of great importance. The fewest cases are found under ten years of age, the most at twenty; the incidence curve declines rather abruptly to forty years, then slowly to seventy years of age. Seventy-two per cent are found in the lower extremity, 82 per cent of these in the region of the knee, 10 per cent in the upper extremity; and the balance, 8 per cent, are scattered. The Registry has no authentic reported cases recorded in the lower end of the radius or the lower end of the tibia. Fifty-two per cent of all osteogenic sarcomas are found in the femur and 82 per cent of this number in the lower metaphysis; 20 per cent of all cases are found in the tibia, 90 per cent of these are in the upper portion and 10 per cent in the shaft.

Pathology. Grossly there is a rapidly developed tumor of the involved bone which usually spreads toward the cortex and along the medullary canal and is usually found in the metaphysis of long bones. The periosteum usually displays a reaction consisting of the formation of hyaline, osteoid and osseous tissue extending perpendicular to the long axis of the bone, producing the typical "sun ray" appearance on the x-ray film. At the terminal portion of the growth, the tumor cells are less active and new bone is frequently formed

which results in the characteristic lipping of osteogenic sarcoma. Microscopically there are all possible combinations of cells representing different stages of differentiation, the most being the small spindle cells. Giant and polyhedral cells are not uncommon. The important features of these various cells are hyperchromatism and variation in size. The occurrence of the largest number of osteogenic sarcomas around the twentieth year is probably due to the fact that there is a great stimulation of bone growth at that age. In some as yet undetermined way, following some stimulus such as trauma, there is a rapid and unrestrained growth of bone cells which form the sarcoma. In about one-third of these cases there is a definite history of trauma, especially in the young adult, preceding the development of osteogenic sarcoma by about one month. This question of the relationship of trauma to osteogenic sarcoma becomes a medicolegal problem. While only rarely does osteogenic sarcoma follow a fracture in an adolescent, on the other hand Coley³ states that "especially in sarcoma of long bones there can be no longer the slightest question that a single local trauma, in the form of a bruise, a sprain or a fracture, may be the direct exciting cause of the sarcoma." Osteogenic sarcoma appears more often in young adults, but may be found during any year of life. It is most common in long bones with the lower extremities affected about seven times as often as the upper; over half of all cases are found in the femur.

Symptoms. The initial complaint is usually pain, characteristically persistent in one bone and usually worse at night. It may be dull or an ache, it may be intermittent or cramplike. Its severity definitely increases as the tumor grows in size, due to pressure on the sensitive periosteum. The swelling or tumor follows the appearance of pain at varying intervals. After the tumor is first palpated, growth is rapid. A pathologic fracture may appear at the site of the tumor. It should be noted that the initial manifestation of discomfort may be attributed to aching in the muscles, and if the pain occurs in the lower extremity the limping which follows is ascribed to muscular soreness or weakness. As the joint is rarely involved early the joint movement is usually free and painless until it is invaded by the tumor late in the disease. Fever is uncommon in the earlier stages but in the later stages, when pulmonary metastases are present, may be quite marked. Contrary to the usual phenomenon of appearance of cachexia in the advanced cancer case, the advanced general osteogenic sarcoma presents the chalky paleness of a profound anemia. Osteogenic sarcoma metastasizes chiefly through the blood stream, most

frequently to the lungs, producing a clinical picture of a diffuse bronchitis. Metastases generally appear within two years of the onset of the tumor.

Diagnosis. The diagnosis may be made on the history, the age of the patient, and the location of the lesion. An initial onset of pain referred to the end of one of the long bones and definite swelling that is fixed to the bone, combined with characteristic x-ray findings, are of extreme importance, although not absolutely diagnostic. Ewing⁴ stresses the symptom of persistent pain in a long bone as of great significance. Simmons⁵ feels that the x-ray diagnosis of osteogenic sarcoma can be based on the following six points:

1. The site of the tumor.
2. The presence of osteolytic and osteoblastic cells.
3. The outline of the shaft of the bone being visible through the tumor.
4. The outline of the tumor being illy defined as opposed to the rather sharp delineation seen in giant cell tumors and metastatic tumors.
5. The presence of the reactive angle at the point where the tumor is invading the cortex and there is some new bone formation.
6. The sun ray appearance due to the new formed bone spicules.

To these six points many observers add the effect of radiation and biopsy findings. This question of biopsy is entitled to further consideration before being installed as a routine procedure. Ewing is quite emphatic in stating that biopsy should be the last step in the diagnosis of bone sarcoma. He feels that the clinical history and x-ray findings in expert hands make the diagnosis and furnish a better conception of the diagnostic and therapeutic problem. He takes the position that a biopsy stimulates a marked increase in malignancy and seriously interferes with radiation therapy, and that, if a biopsy is done at all, the needed tissue should be obtained by suction, through an 18 bore needle passed through the shell of the medullary tumor.

Differential Diagnosis. Osteogenic sarcoma must be differentiated from Ewing's sarcoma, benign bone tumors, giant cell tumors, myeloma, metastases from other malignancies, tuberculosis of the bone, osteitis fibrosa cystica, subperiosteal hemorrhage, Barlow's disease, traumatic periostitis, myositis ossificans, and chondromas. The following points tend to lessen confusion in the diagnosis:

1. Ewing's Sarcoma. This tumor occurs in younger individuals, is found in the shaft rather than the end of the bone, shows little or no tend-

ency toward new bone formation, and is highly radiosensitive.

2. Syphilis of the Bone. This condition has usually a clinical history of much longer duration and the involvement is generally more extensive than is found in sarcoma. Fusiform enlargement of the shaft usually is seen in the x-ray picture due to new bone which generally surrounds and involves the circumference of the shaft, and is dense and ivorylike. Where gumma is present there is comparatively less new bone formation and a great deal of bone destruction.

3. Giant Cell Tumor. This tumor is found at the epiphysis and is usually self limited and encapsulated. The bone has the appearance of being expanded by the tumor, which is surrounded by a thin bony shell. This shell frequently has the appearance of being partitioned by coarse trabeculae.

4. Myeloma. This tumor is generally found in the midportion of the shaft and is frequently multiple. It is a circumscribed tumor growth with bone destruction. While it frequently follows trauma, pain is generally a late rather than an early symptom (as with a giant cell tumor) and the rate of growth is much slower than in osteogenic sarcoma.

5. In subperiosteal hemorrhage, such as is found in hemophilia, lipping of the periosteum may be present and there may be necrosis of the cortex by pressure of blood beneath the periosteum. The general outline of the mass is spindley. Repeated x-ray pictures with the clinical history make this situation clear.

6. In Barlow's disease, the hemorrhage is usually limited to the diaphysis of the long bones.

7. Traumatic periostitis does not surround the bone as does osteogenic sarcoma, and the cortex shows no erosion.

8. On the rare occasions when myositis ossificans accompanies osteogenic sarcoma, diagnosis is difficult indeed. Otherwise it presents no great difficulty in the matter of differential diagnosis since it usually develops three or four weeks after trauma and lacks the resilient feel associated with sarcoma.

9. Skeletal chondromas are sharply outlined, usually pedunculated, and the general appearance seems to be normal bone. There is frequently a thinning of the cortex with well defined bony septa which are not found in osteogenic sarcoma.

10. Differentiation from metastases of extra-osseous malignancies can rarely be made from x-ray studies alone, but the presence of lipping and an unexpanded shaft is characteristic of osteogenic sarcoma.

11. In cystic diseases of the bone the shaft is usually expanded and while the cortex becomes very thin it rarely breaks through. These cysts are usually found in the diaphysis and are usually ovoid in shape.

12. While osteomyelitis may be confused with osteogenic sarcoma, it is much more frequently confused with Ewing's sarcoma. Osteomyelitis shows a general evidence of infection, such as an increase in temperature, leukocytosis, etc., that is not expected in osteogenic sarcoma. The new bone is laid down paralleling the long axis of the long bone rather than radiating from it.

Treatment. There is much discussion and difference of opinion as to what constitutes the best treatment for osteogenic sarcoma. Inasmuch as most cases are fatal it is evident that no treatment is specific or is outstandingly successful. Treatment consists of Coley's toxins, radiation therapy⁶ and operative treatment. In the use of toxins Coley recommends four weeks of intensive treatment and, if improvement is noted, a continuation of the treatment for one year or more. He reports some startling results. Radiation therapy is of definite value and its effect is apparently increased if used with Coley's toxins but in comparatively light dosage. There are some cases in which a combination of radiation and Coley's toxins has resulted in apparent cures. There is more dispute concerning the operative treatment than the others. Without question early amputation is a lifesaving measure if the tumor is correctly diagnosed as osteogenic sarcoma, and it is of little value late in the disease. The case against early amputation is based solely on the question of diagnosis and it is true that many limbs have been sacrificed because of an erroneous diagnosis. If amputation is done, the line of division should go beyond the joint immediately proximal to the lesion. Amputation should never be attempted unless careful investigation shows the absence of metastases. Meyerding⁷ feels that amputation plus Coley's toxins gives the best results, and reports 16 per cent cures. Bloodgood⁸ feels that x-ray is the only therapy of value in the treatment, and amputation should only be done where the diagnosis of osteogenic sarcoma is proved. Curretage to remove the tumor tissue has been successful and should be followed by radiation. Radiation therapy gives the best result in the sclerosing type of sarcoma. Osteogenic sarcoma is not particularly radiosensitive, and may be repeatedly rayed before any improvement is noted.

Prognosis. It is said that the mortality rate of cancer is 100 per cent, and so in osteogenic sarcoma it is also true that most cases are fatal. The

prognosis is much better in patients thirty years of age or over, than in the young adult. The rate of growth is often altered by trauma. When the sarcoma is located near or within the trunk the prognosis is the gravest, so far as the location of the tumor is concerned. The structure of the tumor and x-ray evidence of the sclerosing process, while generally deemed as denoting a lowered degree of malignancy, are not reliable factors on which to base a prognosis, according to Kolodny. He feels that the presence of lymphocytes in the periphery of the tumor is a more reliable indication of diminished malignancy. In his monograph on the cases in the Registry the majority of the five year cures shows this lymphocytosis. Since the Registry was established and the cases kept under observation Crowell reports, as late as 1934, only sixty-seven five year cures of osteogenic sarcoma.

SUMMARY

Osteogenic sarcoma is a relatively rare disease and generally fatal. It occurs chiefly in youth and the young adult. Its onset is often associated with trauma and the initial symptom is generally a persistent pain in the end of a long bone. The diagnosis is made chiefly on clinical history, the age of the patient, trauma and x-ray findings. No specific treatment can be recommended but the best results have been obtained by a combination of Coley's toxins and moderate radiation, or Coley's toxins and amputation.

CASE REPORT*

Personal History: The patient, a white male, sixty-four years of age, a carpenter by occupation, was admitted to St. Luke's Hospital in Davenport, on January 13, 1936, and discharged February 25, 1936. He was later readmitted on April 1, 1936, and discharged April 5, 1936.

Complaint: The chief complaint was pain, swelling, and loss of function of right elbow, and pain and loss of function of right leg.

Present Illness: The patient was seen on December 29, 1935, with Dr. S. at the U. S. Government Transient Bureau located at Montpelier, Iowa. At that time, the patient stated that approximately the latter part of September or the early part of October, 1935, he noticed a slight pain in his right elbow. He did not remember any injury to the elbow. This pain was not severe at first and was not continuous. When the arm was kept quiet and the elbow not bent, there was no pain whatsoever. In doing light tasks about the Transient Bureau this pain would again return. For

*Case from the service of Dr. W. C. Goenne, Davenport.

periods of four to five days or even a week this pain would be entirely absent. About December 1, 1935, he noticed that the elbow was beginning to swell, and it became progressively larger. On December 15, 1935, the patient was hospitalized in the small temporary hospital conducted by the Transient Bureau.

Past History: The patient had had all the ordinary diseases of childhood. The history otherwise was negative.

Family History: The patient's father and mother were both dead, although he did not know the ages at which death occurred nor the causes of death. One brother died at sixty-one years of age, cause unknown; one brother healthy so far as patient knew; one sister living, two dead.

Physical Examination: Physical examination on December 29, 1935, showed temperature, 104; pulse, 122; respiration, 24. The patient was well nourished and did not give the impression of being very ill. Examination of the head, neck, chest and abdomen showed nothing abnormal. There were no cardiovascular irregularities and no genito-urinary disorders. All the extremities were apparently normal except the right humerus and the right tibia. At the lower end of the right humerus there was a swelling of the soft tissues the size of a grapefruit. The swelling was tense, there was no fluctuation, and it was a purplish red color. On palpation it was very tender, although no bony mass was palpable. There was no movement in the elbow joint. There was a distinct bowing of the right tibia, which the patient stated he had had all his life. No points of tenderness and no tumor masses were evident. The bowing had the appearance of the scabbard tibia often found in syphilis. The Rhomberg and Babinski signs were negative. Elbow jerk on the left, knee jerks and ankle jerks were present and equal. There was no tremor and muscle coordination was good. No clinical laboratory examination was made.

Conclusion: I was inclined to believe this man had a sarcoma at the lower end of the right humerus, and recommended that he be hospitalized and x-ray and laboratory examinations made. On January 6, 1936, the patient was brought to my office for x-ray examination of his right elbow. The x-ray taken at that time was very suggestive of an osteomyelitis. He returned to the Transient Bureau and again entered the emergency hospital maintained there. On January 13, 1936, the patient stepped out of the emergency hospital to get some fresh air, and slipped on the ice, injuring his right leg. He was admitted to St. Luke's

Hospital in Davenport, and x-rays taken at that time revealed a transverse fracture in the upper third of the right tibia, and also showed what I diagnosed as a Paget's disease.

Clinical Laboratory Tests: Laboratory findings revealed the following facts: urine, specific gravity, 1020, no sugar, no albumin, no pus, no casts, no epithelial cells, and an occasional white blood cell; red blood count, 5,280,000; white blood count, 10,859; hemoglobin, 90 per cent. The radiologic report was as follows: "Right tibia shows an old proliferative periostitis with an incomplete fracture in the upper third. Right humerus shows a destructive process in the lower third with a periostitis extending to the upper third. X-ray of chest negative."

Diagnosis: I made a diagnosis of Paget's disease (osteitis fibrosa or osteitis deformans) with an osteogenic sarcoma of the lower end of the right humerus. Dr. Voss, the roentgenologist, did not concur in this diagnosis. The complete history and x-rays were submitted to two recognized roentgenologists who diagnosed the tibia as a Paget's disease and the condition in the right humerus as one of four conditions, namely: sarcoma, osteomyelitis, syphilis, or tuberculosis.

Subsequent History: The swelling at the lower end of the right humerus increased very rapidly with an apparent point of softening. The large mass was aspirated and twenty cubic centimeters of apparently normal blood were withdrawn. Amputation of the arm at the level of the upper third was suggested but refused. The patient was then returned to the Transient Bureau emergency hospital, where he remained until April 1, 1936. At that time he returned to St. Luke's Hospital. The swelling had greatly increased and an amputation of the right arm at the upper third of the right humerus was performed. Five days after the amputation this patient was transferred to the county hospital, under the care of the county physician, and made an uneventful recovery. A microscopic study of the specimen showed a highly anaplastic, osteolytic, pleomorphic celled osteosarcoma with extensive areas of necrosis, hemorrhage, and great numbers of giant cells. The final diagnosis was Paget's disease, and osteolytic sarcoma of the right humerus. This patient was not seen by me again until September 29, 1936, at which time he returned to my office for examination for persistent cough. An x-ray examination of the chest at that time showed a number of tumor masses in the lung. The patient died one week later and the body was sent out of the city without my knowledge: therefore no autopsy was obtained.

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VINCENT'S INFECTION IN CHILDREN*

ROLAND STAHR, M.D., Fort Dodge

Vincent's infection in children, also called fusospirochetosis or fusospirochilosis, is seen quite frequently, particularly in the preschool age. Apparently, this malady is much more frequent than it was a number of years ago both in children and adults.

Etiology: When originally described this condition was said to be caused by the *Bacillus fusiformis* and the *Spirochaeta denticola* in symbiosis, and this view has been generally held until recently. It has been found, however, that the disease could not be reproduced experimentally with these two organisms in pure culture. Experimental evidence showed that other organisms regularly present in the lesions must be included as causal agents. Smith[†] found that a combination of four organisms was necessary to reproduce the disease experimentally. These are the *Treponema microdentium*, the *Vibrio viridans*, a small fusiform bacillus and a hemolytic streptococcus. Whenever any member of this quartette was absent, typical fusospirochetal disease did not develop. This, Smith pointed out, was of therapeutic importance, for by eliminating the spirochete with arsenic the remaining members became innocuous and the disease subsided. These organisms are found in the mouths of practically all persons at the gum margins. Local trauma and breaking down of resistance appear to be the determining factors which permit the germs to invade the tissues and produce typical fusospirochetal disease. Because these organisms were found in the mouths of so many normally, it was long felt that they were not pathogenic. Experience, however, has proved that these organisms may become pathogenic and cause disease.

Symptoms: The symptoms of Vincent's infection are variable, depending on the site of involve-

ment and the severity of the infection. The most common site of infection in the preschool child is in the pharynx, particularly over the tonsils. In some the onset may be rather gradual with moderate discomfort in the throat, a bad breath and some elevation of temperature. In others the onset may be very sudden, associated with pain, high fever and prostration. Occasionally it is noted that swallowing is quite difficult. The regional glands in the neck may become enlarged and tender. It has been our experience that Vincent's infection in children may produce fever and marked signs of inflammation about the throat for a number of days before the typical pathology and exudate are noted. The exudate and membrane over the surface of the tonsils, once started, gradually becomes thicker and produces an ulceration with later loss of membrane. The ulcer, under treatment, gradually becomes clean and finally heals with very little scarring but often with marked loss of tonsillar tissue. Occasionally Vincent's infection is limited to the gingival margins and in this instance the child may have no particular symptoms except a low grade fever and moderate discomfort on eating. Any other portion of the mouth or pharynx may be involved and in the severe case the whole of the mouth and pharynx may be involved. It is known that occasionally one may have pulmonary symptoms due to fusospirochetal disease. These pulmonary symptoms are those of a lung abscess. It must be remembered that Vincent's infection of the oropharynx may at times be so severe as to cause destruction of tissue, so-called, "noma". This condition is grave and usually followed by death.

Complications: Complications are not common but may occur, and are usually serious and sometimes fatal. Extension of the infection to the lungs may occur with the formation of either pulmonary abscess or pulmonary gangrene. Deep cervical suppuration has been seen, associated with fatal hemorrhage.

Diagnosis: The diagnosis is not difficult when one can find a grayish membrane which may be differentiated by smears and culture from other infections. The finding of the fusiform bacilli and the spirochetes in the smear from the lesion is not alone diagnostic, since these organisms are present in the mouths of many normal individuals. The disease must be recognized chiefly by its clinical course and the eventual formation of an ulceromembranous lesion. Diphtheria has to be ruled out by culture and syphilis by the Wassermann test and other clinical manifestations. It is our impression that Vincent's infection adds its bit to many of the pharyngeal infections among

*Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

†Smith, David T.: Should fusospirochetal infections be treated with arsenicals? Arch. Otolaryngol., xviii:760-769 (December) 1933.

children. This has been proved time after time when, with an apparent ordinary nasopharyngitis, there comes an additional severity of involvement which promptly subsides under treatment for fusospirochetosis.

Treatment: Since some of the organisms causative of Vincent's infection are obligate anaerobes, oxidizing agents are usually efficient in prevention and treatment. The oxidizing agents most commonly used are hydrogen dioxide and sodium perborate. Hydrogen dioxide may be in a fifty to one hundred per cent solution, applied either as a gargle or as a spray. The more frequently it is applied, the more rapidly will the lesions subside. Sodium perborate may be used as a dentifrice or made into a thick paste with water and spread over the ulcerated lesions, or it may be used in solution as a mouth wash or a gargle. In the milder infections, these oxidizing agents seem able to stop the disease. In small infants and in children who are uncooperative in local treatment several other preparations have been found of value. Bismuth injected intramuscularly seems to be of great value in this type of case. In addition, arsenicals have been used in the form of sulpharsalvarsan, neosalvarsan and stovarsol. Our own preference in the treatment is the use of bismuth sodium tartrate, which, as you all know, is a rather weak bismuth preparation of very little value in the treatment of syphilis. The dosage commonly used is two cubic centimeters intramuscularly, repeated, if necessary, after a period of two to four days. Renal irritation has not been seen following the use of this weak preparation of bismuth. Nephritis has been caused by using the stronger preparations of bismuth which are commonly used in the treatment of lues. Since fusospirochetosis is caused in part, at least, by anaerobic organisms, it is usually possible to bring the disease under control and to see a subsiding of the symptoms; then, after a month or two symptoms of fusospirochetosis may recur. Probably the organisms are latent in lymphoid tissue about the mouth and throat and, when something happens to break down the child's resistance, a flare up of Vincent's infection occurs. Repeated recurrent infections, particularly of the lymphoid tissue of the throat, have been seen which were never cleared up entirely until tonsillectomy had been done. It is practically impossible to kill all the organisms in a cryptic tonsil or about bad teeth until treatment eradicates the infected tissue.

SUMMARY

1. Vincent's infection is caused by the *Treponema microdentium*, the *Vibrio viridans*, a fusiform bacillus and a hemolytic streptococcus.

2. Symptoms vary with intensity and site of infection.

3. Diagnosis depends on clinical course of the disease, membrane formation and finding of causative organisms.

4. Treatment depends on eliminating a group of causative organisms, either by oxidizing agents or spirochetocides. Permanent eradication may not be obtained until infected tissue is removed.

Discussion

Dr. Roy M. Conmey, Sergeant Bluff: Vincent's infection is a mildly contagious disease apparently caused by some multiple anaerobic infection which invades traumatized tissue, particularly the gums and tonsils. This may be either preceded or followed by an involvement of the respiratory, gastro-intestinal, or genito-urinary tracts. Since the active cause appears to be a symbiosis of organisms which occur in the normal mouth, the diagnosis is to be made by the elimination of other causative factors of similar symptoms rather than by the finding of the fusiform bacillus. This statement is made with special reference to diphtheritic and streptococcic infections in which the similarity of the odor of the breath and the appearance of the membrane may be very confusing. It must also be remembered that a Vincent's infection may be superimposed upon other infections in the mouth or throat. Since trauma plays an important rôle in the systemic reaction, all local surgery, such as the extraction of teeth, should be avoided in the presence of even a mild Vincent's infection. Only recently such a patient was seen in extremis, but fortunately he promptly responded to treatment with neoarsphenamine. However, one must not place absolute reliance upon the use of arsenicals; cases have been known to develop in patients under antiluetic treatment. It has been noted by several observers that tobacco chewers never develop this infection while smokers are very susceptible. The treatment consists of injecting bismuth sodium tartrate intramuscularly every three days, and washing the mouth every two hours with hydrogen peroxide. The local application of a two per cent aqueous solution of sodium citrate every three days hastens recovery.

A DISCUSSION OF OBESITY

M. C. WHELOCK, M.D., Mount Pleasant

For some little time the author has been interested in the problem of obesity with a special reference to its treatment. With regard to the problem of these types of cases as seen in a state hospital, investigation can be carried out most satisfactorily. As a rule, there are sufficient patients to justify conclusions. Because of the feeding problem the individuals can be kept on the diet very strictly. At the same time, it is possible

for the person carrying out the work to keep the individuals under close observation. There is, besides the medical aspect, a further consideration of the problem from the mental angle. In the past there has been a tendency to designate various types of obesity. The writer prefers to look upon the matter differently. He considers that in certain syndromes obesity is a sign. On the other hand, it is a distinct entity of its own. This latter type is the one to be considered in the following paragraphs. None of the patients included in this study had any known endocrine dysfunction.

It is rather difficult to specify the exact causes of this disorder. In all likelihood there is an hereditary tendency, as the offspring of overweight individuals are usually prone to accumulate fat easily. There is also a supposed racial predisposition. Both race and heredity may be the result of food habits and qualities. There is also the matter of associations; it is frequently noted that people eat more in the presence of those who do likewise. In women a number of factors are also to be added. Following lactation there is a tendency to add weight easily. This may be based on the idea that they have been counseled to partake of food frequently in order to supply sufficient milk for their children. Furthermore, shortly after marriage other women often begin to gain because of the fact that a number of former worries have been eliminated and at the same time their type of life is more regular. There is also a gain associated with recurring pregnancies. After a busy housewife has reared her children to the stage where they can depend upon themselves she suddenly finds more time on her hands, and as a result is less likely to work hard. Further, at various social gatherings in the afternoons these women vie with one another to stage lunches of rather high caloric content. It has been known for some time that, due to glandular disturbances, a number of women at the change of life suddenly gain weight. Men, as a rule, are busier and more inclined to exercise; hence they gain weight less commonly than do women.

Following operations or serious illnesses both sexes will take on fat because of a tendency to eat in order to increase resistance. The development of obesity as a rule is a slow progressive occurrence. If a person gains a pound a week for a year it can readily be seen just how much weight can be added. Furthermore, once a gain has started it may be easily aggravated because the individual will then practice an economy of physical effort. Basically three factors are of importance: continued overeating, especially rich fatty foods; continued overdrinking, with special reference to malt liquors; and too little exercise.

There has been described a vicious circle of weight gain, increased inertia, decreased loss of heat, increase in the storage of fat and a further tendency to the gain in weight. It is the writer's contention that obesity is always alimentary and not constitutional. It follows the age old teaching of the relationship of supply and demand.

With regard to patients in a state hospital there are possibly other things to be considered. Primarily there is a lack of voluntary inhibition and an inability to judge the capacity of their stomachs. Furthermore, their eating habits frequently are automatic and they will continue to take food as long as it is set in front of them. Some of them enjoy the competition at meals and personally eat more than their neighbors. Also the diet as arranged usually stresses the importance of fats and carbohydrates. Next, there is a decrease in physical activity due to the confinement. At the same time, a number of relatives with the idea of being good to afflicted persons send large amounts of delicacies. Some of these remarks are readily applicable to normal individuals also.

It is scarcely necessary to go into very great detail in regard to the pathology of obesity. Everyone is familiar with the large deposits of fat tissue commonly found subcutaneously, especially in the abdominal walls, arms and thighs, the retroperitoneal tissues, the omentum, the breasts, the pericardium, the heart, the liver and around the kidneys. McLester feels that there may be a disturbance in the intricate mechanism of the midbrain. Because of the marked increase in the surface area there is a diminution of the loss of heat. The writer wonders if the blood pressure does not rise because of the increased area through which the blood must circulate in order that the fatty tissue be well supplied. Because of the poor descent of the diaphragm there is also a failure of satisfactory oxygenation of the blood.

It is rather difficult to evaluate any particularly definite symptoms associated with obesity. Because of the various complications many of the complaints are those associated with the condition other than the obesity. However, by adopting the standards of the various insurance companies for the ideal weights on the basis of height and age, it is possible to estimate how much overweight any one individual is. There are also a number of other simplified means. One is that the person should weigh in kilograms, his height in centimeters minus 100. Another gives the weight in pounds by multiplying 5.5 times the number of inches over five feet and adding a factor of 110. As a general rule the average obese person is physically and mentally sluggish. Because of the ex-

cess of weight which is carried around there are mechanical interferences with locomotion. There is also dyspnea on exertion which is based on the decrease in respired air plus any cardiac failure. Frequently there are various skin lesions between the folds. Fat persons suffer much more during warm weather because of the inability to lose heat. Women quite frequently have menstrual irregularities. Both sexes complain of backache and flat feet.

The diagnosis, as a rule, is simple. As mentioned in the symptomatology, it can be determined on the basis of a chart or a formula. It is always essential to rule out any possible endocrine disorder. Included with these are hypopituitarism, adiposa dolorosa, diffuse lipomatosis, myxedema, hypo-ovarianism and dysgenitalism. It is also advisable to examine the patient closely for ascites and anasarca. McLester divides the obese into three classes: those who inspire envy, those who occasion laughter and those who call forth sympathy. Loeb, in a more serious tone, speaks of the mild type who is ten to 25 per cent above the ideal weight, the moderate who is 25 to 50 per cent above normal, and the severe who is 50 per cent or more above normal.

There is no doubt but what the most serious aspect of obesity is not in itself a factor so much as is the danger resulting from complications. Several conditions are closely associated. Probably the most noticeable one is diabetes. At least 70 to 80 per cent of diabetic patients give a history of being markedly overweight at some time or other in the past if they are not already at present. Of all obese individuals, at least 40 to 60 per cent have an abnormal glucose tolerance. All know of the frequency with which arteriosclerosis follows diabetes. It is also a common accompaniment of obesity. Another closely related condition is hypertension. At least 50 per cent of those persons who suffer from high blood pressure are obese. Apoplexy is seen subsequent to this. Cholelithiasis and cholecystitis are seen quite frequently in those overweight. Eczema and pruritis vulvae are common skin complications. Varicose veins are seen often. It is commonly assumed that sterility is frequently seen in fat women. However, this may be more on the basis of a dysfunction of the ovary or pituitary gland. From the orthopedic point of view one finds flat feet, backache, arthritis with associated radiculitis, and lordosis. Because of the depression of the diaphragm there is shallow respiration, reduced vital capacity, and dyspnea. Later there develops chronic bronchitis and emphysema. Surgically all people who are overweight are considered poor risks. There is always a possibility

of a fat embolus and later of a postoperative hernia.

The prognosis of an individual who remains overweight is poor. Death occurs early as a rule from one of the complications already mentioned. In the age group from 35 to 49, if a person is 25 to 45 pounds over the ideal weight his chances of death are 34 per cent above normal. In the same age group, if an individual is 50 to 85 pounds over the ideal weight, it is 60 per cent above the normal death rate. Almost any insurance company will supply tables showing the effect that obesity has upon the death rate. It is also common knowledge that persons who are overweight pay a higher premium. In view of these circumstances little more need be said with regard to the outlook.

As usual, the best treatment is the prevention of the condition. It is a pretty good rule after the age of thirty-five years to attempt to maintain a weight from ten to fifteen pounds less than the average on the basis of height and weight. The following must hold their weights down: first, those handicapped by a familial tendency to obesity; second, those who have a diabetic tendency or family history; third, those with chronic cardiac conditions, nephritis, arthritis, and those susceptible to gout; and fourth, those who are bedfast for any reason. For those who are already overweight the problem is in actuality one to be solved very simply. By means of diet and diet alone, it is possible to correct the condition. The problem is to burn up the fat already stored in the tissues and thus to utilize it in energy. Almost any textbook will reveal diets arranged to supply a sufficient amount of calories so that the patient may eventually regain the normal weight. Basically these are usually fat free. In his own study the author followed the teachings of Strang and Evans. They feel that a person should have at least one gram of protein per kilogram of ideal weight and .6 of a gram of carbohydrates per kilogram of ideal weight. No fat other than that sufficient to supply the vitamins is given. The author did not concern himself greatly about the vitamins as he felt there would be sufficient in the milk, and this same fact was applicable to the minerals. The water intake was ignored except to allow the patient to take the desired amount.

The patients were weighed once a week. As would be the assumption, attempts to determine the metabolic rates were not particularly successful due to lack of cooperation on the part of this type of patient. However, it is well to bear in mind the fact that if a basal reading is done it should be computed on the ideal weight and not the actual one. It is advisable to determine the number of pounds a patient should lose and keep

him or her on the diet until that is reached. The only fear was of acidosis. With this point in mind, urinalyses were made on each patient weekly. Only a limited number was found to have acetone and diacetic acid. As would be expected it developed more commonly in some than in others. It cleared up immediately when the carbohydrate in the diet was increased. The blood sugar dropped below the normal range. McLester states that those with advanced illnesses who are in the midst of cardiac failure, those who suffer from nephritis, and the aged should be reduced with caution. The writer contends that these same groups should be reduced as soon as possible.

The ideal menu includes at least three sustaining meals composed of simple foods of a bulky nature. The basic reduction is in quantity with emphasis upon the fat. There can be no lack of persistence on the part of the patient or the physician who must be ever willing to encourage him. All fads such as are commonly practiced are contraindicated. The writer can see no justification for fasts either. On the contrary, it is his impression that the patient should be allowed to eat more than is usual on various occasions, especially at holidays. It may be advisable to increase the amount of exercise which the individual takes, but this is not particularly necessary. Later, as the weight loss progresses, there will be voluntary speeding up of activity. It is not inadvisable to arouse the person's pride in his appearance. As long as there is strict adherence to the diets prescribed it is unnecessary, if the case is one of true obesity, to prescribe any medicine. For some time it has been the assumption that on a diet the patient does not lose steadily but rather in a step-like process. However, in the present series it was noticed that the loss was almost progressively downward. The initial loss is large and this persists for a number of weeks. It is always well to take sufficient time to impress upon a patient the necessity of strict adherence to and close supervision of his diet. It seems a wise precaution to check the circulatory system closely. If it is noted that the weight loss is too rapid and too excessive the patient should be investigated closely with the possibility that there may be some other underlying disability.

It seems essential to point out to the patient before the onset of the regime the definite benefits which will be the result of the loss of weight. There is eventually a return of beauty of figure and gracefulness of movements. It has been noted that the love of either the husband or the wife has to some extent increased by the decrease in the weight of the other party. Many have professed

a greater zest for life. There is usually less suffering in hot weather. In some, with increased vascular tension, there has been a mild drop in the blood pressure. Usually the tendency to fatigue is lessened. Much more interest in personal appearance has taken place. Along this same line the purchase of clothing is usually easier because of decreased cost. Some have called attention to the fact that their grocery bills were less. Many enjoy social gatherings which previously they sometimes refused to attend. The resistance to infection is often increased. In those with gallbladder disease the attacks are much less frequent.

Of those who were placed on a restricted diet, fairly intact records were kept on fifty-nine patients. They showed a total loss of 2,950 pounds, or an average of fifty pounds to the individual. The average loss was two and a fraction pounds a week irregardless of whether on a 700 or 1,000 calorie diet and with allowance for stealing and excessive intake at periods. The largest loss was 110½ pounds and the smallest was eleven and one-half pounds. The latter was an individual who was paroled early. A number of the patients could have lost more weight if they had not been released from the institution because of recovery from their mental disorder. In a number the loss was directly proportional to the activity. In some the actual loss could be predicted by estimating the amount of energy to be expended each day in the pursuit of the usual tasks. This, of course, presupposes no utilization of carbohydrates or proteins. No determinations were made with regard to the nitrogen balance for it was assumed that this was not disturbed as long as adequate protein was being supplied. Since the diagnosis of the usual type of obesity is so easy, it scarcely seems necessary to describe the method in which various patients were selected. When it was decided to reduce an individual the age and the height were immediately determined. Naturally the patient was weighed on an accurate scale. Practically all of the women were kept in one ward. From the height and age the ideal weight was determined. The amount of loss to approach the ideal was then ascertained. The individual was immediately placed on a 700 calorie diet and kept on this until the ideal weight was reached, if at all possible. There were occasions when it was necessary to increase this diet to 1,000 calories. These were rare from the point of view of actual need. Patients were weighed each week at practically the same time of the day. Whenever there was a failure to lose constantly an investigation usually revealed that food was being supplied from another source. Some were permitted to continue

working in the kitchen or to feed patients who were bedfast. Usually they could not resist the temptation to purloin small articles from the trays or the tables. It cannot be emphasized too strongly that a person who is anxious to reduce should not prepare the meals. Since the holidays are unusual events in mental hospitals, all of the patients were allowed to eat what they pleased and as much as they wanted. This temporary relapse did not prove too upsetting because the diets were not minded so much afterward. None of the old suffered any ill effects. With the exception of some four patients who developed mild acidosis while on diets of 700 calories, there were no complications. This condition was readily corrected when the diet was increased to 1,000 calories. However, as might be expected, under these circumstances the drop in weight was not so marked. Usually after a period of a few weeks the persons were again placed on 700 calories. It was impossible to keep some individuals on a strict diet, no matter how closely they were observed. Nevertheless, there was usually a loss in weight as they could not filch sufficiently to make up for the difference between their diet and an ordinary meal. Unfortunately, a number of them, when relieved of the necessity of adhering to a diet, immediately began to eat excessively and gained weight again. At the same time, many patients actually felt so much better that they watched their own food intake. Others who had been quite inactive in the wards became rather willing workers. A number who had not been using any cosmetics suddenly became interested in beautifying themselves. Some who had seemed content to remain in the hospital indefinitely became interested in obtaining releases. There were practically no complaints made by relatives and in fact most of them were pleased to learn that the patients were on diets. It is hardly to be expected that the psychoses in any of these cases were cleared up. One or two of the manic patients became so excitable that it was not possible to keep them on diets any longer. The writer scarcely advises any person to consider entering or being committed to a state hospital with the idea in mind of being reduced. On the other hand, it is easily seen what can be accomplished by normal individuals who supposedly have intellectual capacities and sufficient judgment to control their animal instincts.

In this series of cases two types of diets were used. These are seen as Charts I and II. Chart III is nothing more than a brief summary of the various vegetables and fruits with reference to their carbohydrate content. With rare exceptions almost any individual can get along on 700 calories for a fair period of time. This was easily proved

in the present series by the fact that at least forty patients continued on such a restricted intake of food for periods of three to six to nine months. Preferably, however, after there has been a greater reduction in weight the less strict diet should be used. There is no reason why an individual interested in reducing his or her weight should not accomplish the purpose by the use of these diets. The basic principles followed have already been outlined; that is, to supply the required amount of protein, a limited amount of carbohydrate and practically no fat. This latter is utilized from the body. Naturally, in any hospital, it is much easier to portion out foods. However, unless a person is eating in a restaurant it is a simple matter to follow such a routine at home. Emphasis is again laid on the fact that whenever possible, bulky foods should be used. One should never lie down after eating, and one should exercise in moderation. As a rule it is wise to have the patients report at least once a week in order that their weight may be checked. At this time it will also be possible for the physician to talk with them to encourage them and to answer any questions which may be brought up. Unfortunately, a common error is to give a patient a diet only to forget him, and then to expect the individual to follow the treatment religiously.

In summarizing it can be stated that some fifty-nine patients were placed on reduction diets in a state mental institution where they were easily cared for along very uncomplicated lines, and the result was obtained without much difficulty; that is, the patients lost weight and did not suffer discomfort. In a few cases there was some mild improvement mentally due to the fact that more interest was taken in the personal appearance. It is rather difficult to arrive at any definite conclusion because no dramatic study was made. However, it was easily demonstrated that by a certain amount of interest, a regular routine, a fairly strict diet and a minimum amount of encouragement, a number of obese individuals can be improved both mentally and physically. If this can be done with so-called abnormal personalities, how much more simple should it be with those who have a retention of intellectual functions. The whole problem in the treatment of obesity sums up to a few simple words: a restriction of the food intake below the actual physical requirements for a period of time sufficient to enable the individual to attain his normal weight.

CHART I

Reduction Diet (Strict) 721 Calories Scheme

Breakfast:

10 per cent fruit, 1 medium serving

1 glass skim milk, 6 ounces
Coffee
10:00 a. m.:
1 glass skim milk, 6 ounces
Dinner:
Lean meat (4 ounces or 2 medium servings)
5 per cent vegetable, 1 medium serving
Tea
2:00 p. m.:
1 glass skim milk, 6 ounces
Supper:
5 per cent vegetable, 1 medium serving
Lean meat, 1 medium serving

CHART II

Reduction Diet (Less Strict) 1014 Calories
Scheme

Breakfast:
1 medium serving 10 per cent fruit
1 egg
1 thin slice of bread
1 glass skim milk
 $\frac{1}{2}$ teaspoon butter
 $1\frac{1}{2}$ rounded tablespoonful cottage cheese
Dinner:
2 medium servings 5 per cent vegetable
1 medium serving lean meat
1 thin slice whole wheat bread
1 medium serving 15 per cent fruit
1 glass skim milk
Tea, coffee or clear broth
Supper:
1 medium serving 5 per cent vegetable
2 eggs
1 thin slice of bread
1 glass skim milk

CHART III

Groups of food and approximate caloric value of each group for use in the low calorie diets.

Five to ten per cent fruits, one medium serving, fresh, or canned without sugar, yields approximately 40 calories if fresh; or 20 calories canned without sugar.

Grapefruit	Peaches	Watermelon
Oranges	Lemons	Strawberries
Cranberries	Pineapple	Cantaloupe

Seven and one-half to 15 per cent fruits, one medium serving yields approximately 60 calories fresh or 30 calories canned without sugar.

Apples	Apricots	Pears	Raspberries
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Twenty per cent fruits, one medium serving yields 80 calories.

Bananas White or Concord Grapes Plums
Ordinary canned fruit, one medium serving varies in calories from 60 to 100 according to density of the syrup used in canning.

Dried fruits, one medium serving cooked without sugar yields approximately 100 calories.

Preserves and jellies, entirely too high even to consider on low calorie diet; two level tablespoons vary from 60 calories in a thin preserve to 96 or 100 calories in a thick one.

Five per cent vegetables, one medium serving yields 20 calories.

Lettuce	Beet greens	Spinach
Cucumbers	Dandelion greens	String beans
Asparagus	Endive	Cabbage
Broccoli	Egg plant	Radishes
Celery	Mushrooms	Brussels sprouts
Sauerkraut	Tomatoes	Cauliflower

Ten per cent vegetables, one medium serving yields 34 calories.

Pumpkin	Squash	Onions
Turnips	Beets	Green peas
Kohlrabi	Carrots	

Twenty per cent vegetables, one medium serving yields 95 calories.

Potatoes	Green corn	Boiled macaroni
Dried beans	Boiled rice	

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THE FINLEY HOSPITAL CLINICO-PATHOLOGIC CONFERENCE

ACUTE LYMPHATIC LEUKEMIA

LAURENCE E. COOLEY, M.D., Dubuque
and
E. A. HANSKE, M.D., Bellevue

Lymphatic leukemia and lymphosarcoma are generally considered to be separate and distinct clinical entities. In the following case report a patient, having a tumor diagnosed as lymphosarcoma, which was seemingly being well controlled with roentgen therapy, suddenly developed an overwhelming lymphatic leukemia.

CASE REPORT

The patient, a married woman, twenty-seven years of age, was admitted to Finley Hospital June 10, 1937, with the complaint of a very severe sore throat. In November of 1936 the patient had consulted one of us (E. A. H.) because of a lump in the right breast. On examination this lump was found to be the size of a small lemon and was freely movable. A similar lump was discovered in the left breast. The patient went to the Mayo Clinic where x-ray examination revealed a widening of the mediastinum. Dr. Harrington of the Mayo Clinic removed the nodule from the right breast for diagnosis, and Dr. F. W. Gaarde gave us the following report:

"The classification of the tumor histologically was not quite definite except to state definitely that it was not the ordinary adenocarcinoma found in the breast. The final pathologic report was that

it was a grade four malignant neoplasm, either a lymphosarcoma or a small cell carcinoma. X-ray treatment was advised for the tumors of the mediastinum and the breasts. The tumor was very radiosensitive and after two series of treatments there was no evidence of a mediastinal mass by x-ray, and the nodule in the breast which had not been removed had entirely disappeared. In February, 1937, she returned to the Mayo Clinic for further radiation, but because her leukocyte count was down to 3,900 she was given no treatment at that time but was asked to report for treatment again. A blood smear taken on February 19 showed toxic neutrophils and nothing else of significance."

The patient returned home and felt well up to the onset of the present illness, which began seven days before admission to the hospital. At that time the patient noticed that the throat was sore, but she continued to be up and around. The throat became worse and the patient noted a high temperature. At the time one of us (E. A. H.) was called and suggested that she come in to the hospital. From the onset of the illness there had been bleeding from the gums. In addition to her sore throat the patient complained of abdominal distention, nausea and vomiting.

Family History: The father and mother were living and well. However, one brother died at twenty-seven years of age, from a blood disease which seemed to the relatives to be similar to the one which the patient had. It was impossible to obtain accurate information about the cause of his death. One grandfather died of what was thought to be pernicious anemia. No other points in the family history or past history of the patient seemed relevant.

Physical Examination: The patient was a well-developed, well-nourished young female, very pale in appearance. The eyes, ears and nose were negative. The gums on the upper right side of the mouth were swollen and covered with a foul smelling, dirty, grayish membrane. This membrane extended over the region of the right tonsil. There was some fresh oozing of blood from the gum margins. Examination of the neck was negative for enlarged glands, although there was some tenderness at the angle of the jaw on the right side. The heart rate was 132. The heart was not enlarged and there were no irregularities or murmurs present. The pulse was rather weak and thready. There were no râles present throughout the lung fields. There was no demonstrable enlargement or tenderness of the liver. The tip of the spleen was palpable; but not tender. There were a few ecchymoses on the legs. On the right breast there

was a small white scar. There was no tumor mass palpable in this breast. In the left breast there was a mass the size of an English walnut. This was not attached to either the underlying or the more superficial tissues. The rest of the examination was negative.

With the history of a recent leukopenia in addition to the necrotic looking tissues along the gums and in the tonsillar fossa, it was believed that this patient had an agranulocytosis. A blood examination, however, showed a white blood count of 188,000, a red blood count of 3,560,000 and a hemoglobin of 70 per cent. Almost all of the white blood cells were immature lymphocyte cells and only an exceedingly rare neutrophil was seen. The urine showed a small amount of albumin and a few pus cells; otherwise it was negative. Smears of the throat showed only a few epithelial cells and an exceedingly rare leukocyte. The organisms were mainly staphylococci. A few pneumococci were also seen. No streptococci, diphtheria bacilli nor Vincent's angina organisms were found. The patient was typed and was given two transfusions of 500 cubic centimeters of blood. In spite of the transfusions the patient's red blood count dropped in the five days in the hospital to 3,100,000 and the hemoglobin to 60 per cent. The white blood count also gradually decreased to 82,400 at the time of death. There was more evidence of bleeding along the left gum margin and in the left tonsillar region. Bleeding was also noted from the nose and the vagina. Petechiae appeared on the trunk twenty-four hours before death. The patient died five days after admission to the hospital.

An autopsy was performed by Dr. F. P. McNamara. No evidence of any tumor was found in the right breast. In the left breast underneath the breast tissue, but not attached to the underlying muscles, was found the tumor mass which was palpated on physical examination. Two lymph nodes measuring three centimeters in diameter were found in the lung hilum. There were also a few very small lymph nodes in the superior mediastinum. All of these glands had the same gross appearance on section. The spleen weighed 510 grams and on section the pulp was dark red and soft. There were several infarcts seen toward the lower pole and the splenic vein was filled with a friable thrombus. There was no evidence of metastases in any of the regional lymph nodes. On microscopic section localized accumulations of young lymphocytes were found in all of the organs examined. Microscopically, the breast tumor and the lymph nodes in the mediastinum and lung hilum were composed of masses of round cells

with rather large pale staining nuclei and a very scant pale staining cytoplasm. The stroma consists of a rare strand of connective tissue with an exceedingly rare blood vessel. Localized accumulations of young lymphocytes were found in all the other internal organs examined. The anatomic diagnosis was as follows:

Primary:

1. Acute lymphatic leukemia (purpura and hemorrhages from gums, nose and vagina.)
2. Bilateral bronchopneumonia.
3. Thrombosis of the splenic artery with infarcts of the spleen.
4. Granulocytopenia.

Subsidiary:

1. Anaplastic tumor of the left pectoral region; mediastinal and hilic metastases.
2. Scar of the right breast (excision of tumor).
3. Polyp of the uterus.

A series of smears and some of the specimens taken from the various organs were sent to Dr. Gaarde. His reply in part was as follows:

"We have completed the tissue and blood examination and Dr. Kernohan reports that the diagnosis on the tissue sent by you is leukemic infiltration of the breasts, mediastinal nodes and ovary. The blood smears were studied carefully by Dr. Watkins who said that his final diagnosis was an acute lymphatic leukemia. He stated that morphologically the blood showed the features of a very fulminating type of lymphatic leukemia. Practically all the cells were stem cells but not the type one sees in reticulo-endotheliosis of the Schilling type. Dr. Watkins did not believe that the x-ray treatment could be regarded as an etiologic factor in producing this leukemic state. He states that he has frequently seen the acute infections produce this when there is already lymphosarcoma present. The pathologist also suggested that this case would probably fit the diagnosis of aleukemic leukosis up to the time that she acquired an acute infection and developed into an acute leukemia."

DISCUSSION

In 1915 Sternberger¹ described an infiltrating lymphosarcoma and a leukemic blood picture occurring simultaneously. He called this condition leukosarcoma and considered it different than either leukemia or lymphosarcoma. Since that time a number of cases which seem to have fallen under Sternberger's definition have appeared in the literature. In 1933 Kato and Brunschwig² collected fifteen cases from the literature. Almost all of the patients had mediastinal involvement. In none

of the cases reported were breast tumors mentioned. These authors raised the question as to whether or not roentgen therapy induced the leukemic state, since all of the patients they reported had been so treated. Whitby and Britton³ believe that Sternberger's view is not held at the present time. They state that lymphosarcoma is a relatively common disease but that this leukemic change is comparatively rare. Evans and Leucutia⁴ believe that when the lymphosarcoma extends to the bone marrow a picture of lymphatic leukemia develops. Slye⁵ states that her work on the heredity of leukemia tends to support the view that leukemia, pseudoleukemia and lymphosarcoma are members of the neoplastic group.

This patient, like many others reported, developed lymphatic leukemia after x-ray therapy. During four years Evans and Leucutia⁴ treated sixteen patients with lymphosarcoma with roentgen therapy, three of whom developed the leukemic blood picture. They believe that if life is sufficiently prolonged, lymphosarcoma will change into lymphatic leukemia. They do not state how long it is necessary for this to take place. However, this view does not seem to be generally accepted. The case reported here seems to be the only case in which breast tumors were present. Watkins states that acute infections may suddenly produce the leukemic state in cases where lymphosarcoma was already present. In agranulocytosis Kracke⁶ found that there was a marked lowering in the white blood count first and that infection developed following that reduction. In this case it would seem as though a similar mechanism was operative. The leukemia appeared first causing a disappearance of the granulocytes from the blood stream. The infection then appeared secondarily. This article illustrates the confusion in terminology in lymphatic tumors.

CONCLUSIONS

A case of acute lymphatic leukemia associated with a tumor of lymphatic origin is reported.

We wish to express appreciation to Dr. F. P. McNamara for his pathologic reports and to Drs. F. W. Gaarde, J. W. Kernohan and C. H. Watkins for their reports.

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STATE DEPARTMENT OF HEALTH

Walter Diering

REPORTING OF SYPHILIS AND GONORRHEA
IN 1937

Marked improvement has occurred during the months of 1937, in the reporting of cases of syphilis and gonorrhea. In the May number of the JOURNAL, page 214, a line diagram indicated the number of cases of syphilis which were reported to the Iowa State Department of Health for the first

year period, 1934-1936, and the solid line the number of cases reported by months, thus far in 1937. Records of cases of syphilis and gonorrhea, reported for the first nine months of 1936 (through

REPORTING OF GONORRHEA IN IOWA
Comparison of reported cases for first nine months of 1937 (through September 25), with the three-year average for 1934-1936

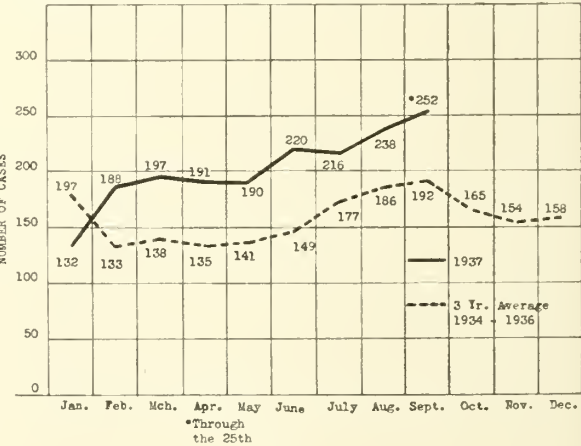


Fig. 2.

September 22), have been grouped according to the agencies reporting the cases (see Figure 3). Of a total of 2,204 cases of syphilis, 1,557, or 71 per cent, were reported by attending physicians.

AGENCIES REPORTING SYPHILIS AND GONORRHEA
IN IOWA
For the period January 1 to September 22, 1937

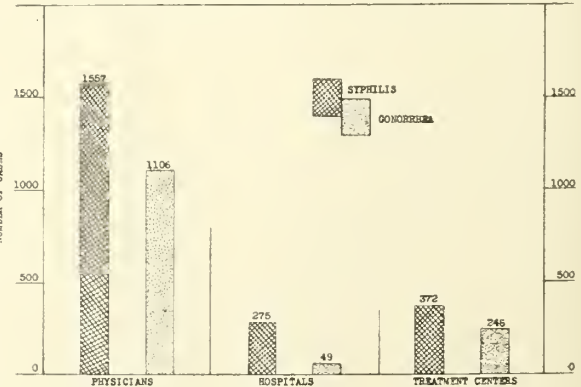


Fig. 3.

REPORTING OF SYPHILIS IN IOWA

Comparison of reported cases for first nine months of 1937 (through September 25), with the three-year average for 1934-1936

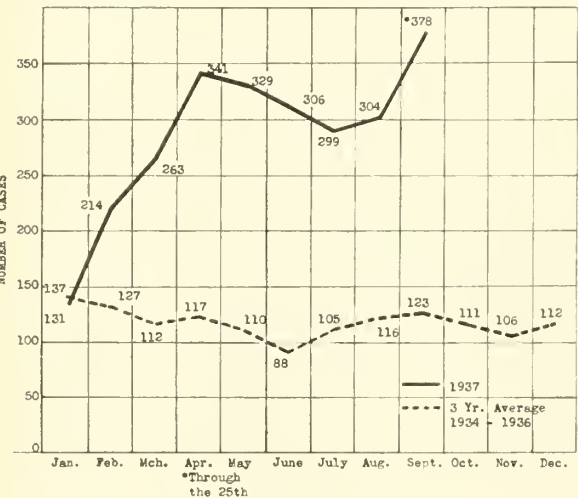


Fig. 1.

four months of 1937. The accompanying graph (Figure 1) shows the progress of reporting during the first nine months of this year (through September 25). The lower dash line represents the average number of cases of syphilis reported by months for the three year period, 1934-1936. The upper solid line, representing month by month reports for the current year, shows that during May, June, July and August, the level of reporting remained fairly constant with that of April and that continued improvement in reporting occurred in September. Information pertaining to the reporting of cases of gonorrhea is presented in graphic form in Figure 2. As in Figure 1, the dash line represents the average number of reports for the three

The remaining 29 per cent of the cases were reported from hospitals (275 cases) and from treatment centers (372 cases), the latter being conducted for indigent patients in some of the larger cities of the state. The stippled bars indicate that similarly for gonorrhea, 79 per cent of all cases were reported to the State Department of Health by physicians engaged in private practice.

The number of Iowa physicians reporting one or more cases of syphilis for the period January 1 to September 22, 1937, is shown in the accompany-

PHYSICIANS REPORTING SYPHILIS IN IOWA
During period January 1 to September 22, 1937

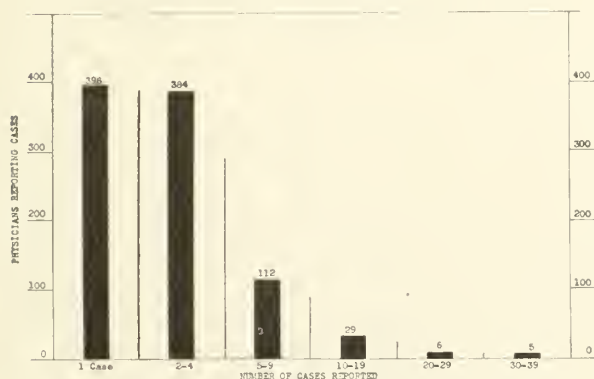


Fig. 4.

ing bar diagram (Figure 4). Among a total of 932 physicians reporting syphilis to the State Department of Health, 396 reported one case of the disease, 384 reported from two to four cases; 112 reported five to nine cases, 29 physicians reported ten to nineteen cases, six reported up to twenty-nine, and five physicians as many as thirty-nine cases.

The Iowa State Department of Health appreciates the interest manifested by the many attending physicians throughout the state who have reported cases of syphilis and gonorrhea. The department enlists the continued support of physicians in the notification of new cases, which are recognized and brought under treatment.

POLIOMYELITIS UNDULY PREVALENT IN IOWA

During August and September, 1937, Iowa, like many states, experienced an unusual incidence of poliomyelitis. The last outbreak of this disease occurred in 1930 when 222 cases were reported, and in 1931, when 167 cases were reported. In August of the current year, 37 cases were reported and in September, 118 cases. Reported cases for the first nine months of 1937 totaled 171. Undue prevalence of poliomyelitis is expected to continue

through October. Much, perhaps too much, publicity has accompanied the present outbreak. The general public does not realize the morbidity and mortality rates for poliomyelitis are very low, when they are compared with those of other communicable diseases. A damaged limb following an acute illness is more readily appreciated than are the damaged ears, kidneys, heart, and nervous system, subsequent to scarlet fever or syphilis.

Some medical authorities state that the virus of poliomyelitis enters the system by way of the olfactory nerve; others have reason to believe that the portal of entry is the gastro-intestinal tract. The use of nasal instillations of zinc sulphate as outlined by Schultz and Gebhardt and by Peet, Echols and Richter in the June 26 issue of the *Journal of the American Medical Association*, is based on the former theory. Chemical prophylaxis is still in the investigative stage and its use depends upon the judgment of the attending physician. Proponents of the theory of the gastro-intestinal portal of entry point to the seasonal incidence of poliomyelitis at a time when other gastro-intestinal diseases are prevalent. They also point to the clinical observation that many of the patients show signs of gastro-intestinal distress during the early stage of the disease.

Due to the fact that physicians, if given the opportunity, are able to diagnose poliomyelitis during the preparalytic phase of the disease, it is possible that the use of human immune poliomyelitis serum during this stage may be of value in alleviating general symptoms and in preventing the development of paralysis. During the past several months clinics for collecting blood from those who have recovered from poliomyelitis have been held under the auspices of the State Department of Health, in Des Moines, Sioux City, Waterloo, and Burlington. Since July 15, 1937, 13,000 cubic centimeters of human immune poliomyelitis serum have been distributed to Iowa physicians. Serum given early and in large amount has apparently produced favorable results in many cases. Due to diverse opinion relative to the value of convalescent poliomyelitis serum, it is urgently requested that the case record form be completed with detailed information regarding the case and the attending physician's very frank opinion as to the value of the serum. With this information, it should be possible to draw definite conclusions from a series of cases.

Poliomyelitis serum is processed by and distributed directly to Iowa physicians from the Iowa State Department of Health. Immediate shipment will follow telegrams or telephone requests. After office hours, call 7-1417, 6-1696, or 5-0453.

The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

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A SALUTE TO THE VETERINARIANS

According to a recent release from the United States Department of Agriculture, New Jersey on September 1 became the forty-fifth state in the Union officially to be designated as a modified accredited area. By the term "modified accredited" is meant that less than one-half of one per cent of tuberculous infection as shown by the tuberculin test exists among the herds of cattle in any county of the state. Of the three remaining states that have not received official recognition, the work is most advanced in New York, where only one county is yet to be placed on the modified accredited list.* In South Dakota the work has been proceeding well until recently when it became necessary to discontinue most of it temporarily because of an outbreak of anthrax. Thirty-seven counties are still in the non-accredited area in California, but state and federal authorities are working on the project, and expect that some of these counties will be added to the modified accredited area within the next few months. Thus the veterinarians have succeeded in virtually eradicating tuberculosis from among the cattle of the United States. What this means in dollars and cents to the dairy industry of the country requires little comment; but words are not available adequately to describe the potential benefit accruing to thousands of children in having the chief source of bone, joint and intestinal tuberculosis exterminated.

Most amazing perhaps is the fact that this task has been accomplished in the short space of a little less than half a century. The work began in 1891, shortly after Koch's discovery of tuberculin, when Dr. Leonard Pearson of the Veterinary Depart-

ment of the University of Pennsylvania, and Dean Russell of the University of Wisconsin, brought some tuberculin from Koch's laboratory to America. Dr. Pearson, in conjunction with one of his students, Charles E. Cotton, clearly demonstrated the value of the tuberculin test in the detection of tuberculosis among cattle. The success achieved by the veterinarians in their tuberculosis control program is directly the result of the early adoption by the states of the plan which called for the slaughtering of all animals which reacted positively to the test, and for the repetition of the test at regular intervals in order that animals which might have been too recently contaminated to react to the first test, could be identified at a later one. Considerable opposition had to be overcome before this method gained general acceptance. Many felt that only sick animals needed to be slaughtered, but abundant proof was obtained at autopsy to show that healthy appearing but positively reacting animals harbored grossly or microscopically demonstrable foci of disease. Moreover, it was shown that when the Bang method was employed (the Bang method consists of slaughtering the ill animals, and segregating the positive reactors in a herd separate from the negative reactors) animals in the positive group were constantly falling ill from the disease and becoming a source of contact for other animals. In England the law requires that only ill animals be slaughtered, but after two decades of such a program very little headway has been made. It has been stated that approximately forty per cent of her cattle still show evidence of tuberculous infection.

The veterinarians of America have well earned the gratitude of a nation for their persistent pursuit of a policy which they believed to be right, and the results achieved have amply demonstrated the correctness of their view. Naturally the success of the veterinarians in eradicating tuberculosis from among cattle has been most encouraging to the medical profession now engaged in a similar conquest of tuberculosis in the human family. The literature of the day contains not infrequent references to a time, possibly two or three generations hence, when tuberculosis will have become as rare a disease among mankind as it is among cattle today.

As in the work of the veterinarians, it is the tuberculin test, supplemented by the x-ray, by which it is hoped this desirable end may be brought about. When the opinion prevailed that tuberculous infection was practically universal by the time puberty had been reached, positive tuberculin tests were of little value, but since the inaccuracy of this view has been demonstrated by the numerous tuberculin surveys undertaken in this country, the

*As the JOURNAL goes to press, word comes of New York's official designation as a modified accredited area, effective October 1, 1937.

tuberculin test has taken on a new and far more significant meaning. Only recently Whitney and McCaffrey* have published infection rates for the United States based upon 56,688 persons tested in thirty states and the District of Columbia. The figures are: all ages, 47 per cent; up to five years, 24.9 per cent; five to nine years, 21.6 per cent; ten to fourteen years, 28.4 per cent; fifteen to nineteen, 31.9 per cent; and over twenty years, 60.1 per cent. In many states the infection rate is surprisingly low. In South Dakota, for instance, out of 9,071 tests done, only 4.6 per cent were positive. In many parts of Minnesota and Iowa, rates as low as six and ten per cent have been reported. A higher incidence seems to prevail among some of the Atlantic seaboard states. Furthermore, accumulated evidence shows conclusively that the infection rate is declining among all ages, year after year, which can be the result only of a constantly decreasing exposure to open cases of pulmonary tuberculosis.

In view of such facts the tuberculin test assumes a most important function. In the first place it selects those individuals in the community who have been infected, and indicates the families or associates among whom sources of contagion should be sought; and second, it reveals those individuals who need further examination to determine whether or not clinical disease is present, and selects those who should be kept under close observation during the years from puberty to adult life when tuberculous disease is most likely to develop. Theoretically then, it is possible to discover all communicable cases of tuberculosis, and to detect the disease in all infected individuals before it becomes communicable. The means for the epidemiologic control of human tuberculosis are at hand, but their application lags. No one can deny that the task of the veterinarians has been a simpler one than that which confronts the medical practitioners, but the success of the former points the way to the latter, and it is to be hoped that the medical profession will accept the challenge.

*Whitney, J. S., and McCaffrey, I.: A summary of the results of group tuberculin testing with P.P.D. (purified protein derivative) in the United States. *Am. Rev. Tuberc.*, xxxv:597 (May) 1937.

VITAMIN C DEFICIENCY

The numerous contributions to the literature upon the influence of Vitamin C on the human organism and the experimental animal, prompts a serious appraisal of the importance of this food factor in human economy.

The earliest reported use of Vitamin C in the cure of scurvy dates back to the second voyage of Jacques Cartier in 1535, when a drink prepared from the leaves and bark of an evergreen tree re-

sulted in a cure of the malady. In 1747 Lind demonstrated the efficacy of lemon juice in the prophylaxis and treatment of scurvy in British sailors. The experimental investigation of scurvy dates from 1907 when Holst and Frohlich found that guinea pigs kept upon a cereal diet without the addition of vegetables developed the disease. In 1928 Szent-Györgyi isolated ascorbic acid from oranges. King and Waugh at the same time obtained crystals of ascorbic acid from concentrates of lemon juice. Hirst then synthesized ascorbic acid ($C_6H_8O_6$). The crystalline ascorbic acid was found to possess high antiscorbutic potency.

The Council on Pharmacy and Chemistry of the American Medical Association has adopted the designation of cevitamic acid for the crystalline Vitamin C which was introduced as ascorbic acid. The international unit of potency is 0.05 of a milligram of cevitamic acid, which is the amount of Vitamin C contained in 0.1 of a cubic centimeter of lemon juice.

The rôle of Vitamin C in human economy has given rise to much study, indicating a significant part in body chemistry, in enzyme action, and the regulation of the colloidal state of the intercellular substance. Experimental studies have indicated that a deficiency of Vitamin C in the diet of guinea pigs renders the animals less resistant to diphtheria toxin than normal animals; likewise, the administration of cevitamic acid to normal guinea pigs increases their resistance to toxin. A protective effect of Vitamin C against tuberculous infection has been repeatedly demonstrated in experimental animals. Poliomyelitis virus when mixed with crystalline cevitamic acid is rendered non-infectious when injected intracerebrally in monkeys.

The recent introductions of methods for the determination of Vitamin C in the blood plasma and in the urine by a method of titration has made possible studies of the metabolism of this factor in the human subject. Conceding that clinical scurvy is due to a lack of Vitamin C in the diet, the study of subclinical and preclinical scurvy or hypovitaminosis C opens wide the doors of clinical possibilities. Certain investigators conclude that specific hemorrhagic states, active tuberculosis, and rheumatic infections are characterized by a Vitamin C deficiency. Other clinicians have failed to corroborate these findings. It has been demonstrated that the administration of Vitamin C in Addison's disease lessens the pigmentation and that a deficiency of the vitamin exists. The diagnosis of subclinical scurvy or hypovitaminosis in certain clinical states rests upon the results of first, the capillary resistance test; second, the effects of Vitamin C administration upon the capillary test;

and third, studies of the level of cevitic acid in the blood and urine and the results of test doses of the vitamin.

So far at least hypovitaminosis does not constitute a distinct clinical entity, and at the present time our instruments of measuring this condition are not precise. However, the alert clinician should be conscious of the fact that Vitamin C deficiency might be a deciding factor in the pathogenesis of certain diseases.

GROUP HOSPITALIZATION

For a period of over three months, the *Journal of the American Medical Association* has been carrying a series of articles on the subject of group hospitalization. The thirteenth and final article in the series was published on September 11, and it is believed that certain of the conclusions and recommendations are important and pertinent enough to be brought to the attention of members of the Iowa State Medical Society.

This information is particularly timely in view of the recent action of the Medical Economics Committee of the Iowa State Medical Society in approving the appointment of three members of the Society to serve as members of the board of directors of the newly re-organized Iowa Hospital Service Insurance Company. This company is, as far as is known, the first hospital insurance company operating in Iowa on a large scale. The Medical Economics Committee has not approved, nor has it been asked to approve, the company or its particular plan. The letter inviting the Society to appoint physicians on its board of directors stated that the officers of the company felt that the medical profession should have an active voice in the operation of the company and the administration of the plan in the better interest of the community.

There are two general plans for providing hospitalization; one is composed of group hospitalization plans; the other of hospital insurance companies such as the Iowa Hospital Service Insurance Company. In regard to these two classifications, the *Journal of the American Medical Association* states:

"Largely because of the popularity of group hospitalization plans, hospital insurance companies have been formed. These companies are organized under the mutual assessment laws and issue policies offering cash benefits for all services. Despite the similarity of the several companies now in operation, there is a wide difference in their administrative practices. Some are organized with the sole interest of benefiting their community and of assisting persons to secure more adequate hos-

pitalization. Others are organized as private business ventures.

"The comparison of group hospitalization plans and hospital insurance companies suggests that a compromise organization may prove desirable. Such an organization would operate as a community hospitalization plan but would offer cash benefits directly to the patient or jointly to the patient and the hospital or physician. A hospitalization plan offering cash benefits would remove most of the objectionable features of the group hospitalization plan by avoiding the disturbances between hospitals and physicians concerning the practice of medicine in hospitals.

"The failure to provide for persons in the low income groups who really need assistance and to meet the complete expense of hospitalized illnesses may lead to the demand for compulsory subscription and expansion of benefits to include medical and surgical services. It is extremely doubtful whether hospital service corporations are the proper agency to control and regulate the distribution of medical services. However, it appears that they will attempt to do so unless supervised by hospital administrators and physicians who recognize the fundamental values of professional control of medical services. The importance of professional control and of adherence to ethical principles needs to be reaffirmed for all agencies concerned with medical services.

"The decision as to whether or not a group hospitalization plan is essential must rest primarily with the medical profession and the hospital officials of the local community. The following principles are suggested in the interests of fairness, efficiency and greater security, and in the event that hospital insurance is deemed necessary:

1. The plan of organization should conform to state statutes and case law. The majority of the governing body of the hospital insurance plan should be chosen from among members of official hospital groups and members of medical societies. Great care should be taken to assure the nonprofit character of these new ventures.

2. The plan should include all reputable hospitals. The qualifications of the participating hospitals should be closely supervised. Member hospitals should be limited to those on the Hospital Register of the American Medical Association or to those approved by the state departments of public health or other state agencies in those states in which there is approval, registration or licensing of hospitals.

3. The medical profession should have a voice in the organization and administration of the plan. Since hospitals were founded to serve as facilitat-

ing means to the practice of medicine, the medical profession must concern itself intimately with plans likely to affect the relations of hospitals to physicians.

4. The subscriber's contract should exclude all medical services—contract provisions should be limited exclusively to hospital facilities. If hospital service is limited to include only hospital room accommodations such as bed, board, operating room, medicines, surgical dressings and general nursing care, the distinction between hospital service and medical service will be clear.

5. The plan should be operated on an insurance accounting basis with due consideration for earned and unearned premiums, administrative costs and reserves for contingencies and unanticipated losses. Supervision by state insurance departments has been advantageous for both the buyer and the seller of insurance contracts. Laws permitting the formation of hospital service corporations should not remove the benefits of such supervision or violate the principles enumerated.

6. There should be an upper income limit for subscribers. If group hospitalization plans are designed to aid persons with limited means to secure hospital services, they should render such service at less than regular rates. If no consideration in rates is made for persons with limited means, group hospitalization plans lose their altruistic purpose and there may be little justification for an income limit.

7. There should be no commercial or high pressure salesmanship or exorbitant or misleading advertising to secure subscribers. Such tactics are contrary to medical and hospital ethics and are against sound public policy.

8. There should be no diversion of funds to individuals or corporations seeking to secure subscribers for a profit. The moment hospitals lose their traditional character as institutions of charity and humanitarianism, the entire voluntary hospital system will break down.

9. Group hospitalization plans should not be utilized primarily or chiefly as means to increase bed occupancy or to liquidate hospital indebtedness. Such plans, if they are necessary, should place emphasis on public welfare and not on hospital finances.

10. Group hospitalization plans should not be considered a panacea for the economic ills of hospitals. They can serve only a small portion of those persons needing hospital services. Hospitals must continue to develop efficient methods of administration and service independent of any insurance method of selling their accommodations.

"The best interests of the patient are paramount

and must be protected. This is the duty of the medical profession and hospital associations * * *. The group hospitalization movement is clearly one of the major issues demanding concerted action by physicians and hospital administrators if the future of medical practice is to be maintained on a basis which guarantees that the welfare of the sick person is the first consideration."

These points are given in detail in order that members of the Iowa State Medical Society may have some guiding principles by which to judge any and all hospitalization plans that may be promoted in the state. Physicians will be questioned by patients regarding the merits of such plans; physicians who own hospitals may be interested in having their hospitals become member hospitals. While the Medical Economics Committee will be glad to disseminate whatever information it has available, the points outlined above will provide a general standard to follow before any part in such a plan is accepted or recommended to others.

Many physicians who have studied the problem of group hospitalization feel that the principle is sound and workable; in fact several such plans are in force in other states and are apparently quite successful. The most important feature is the management of the plans and it was for this reason that the Medical Economics Committee of the Iowa State Medical Society took the action indicated. This committee, however, can only approve the appointment of members of the board of directors. The responsibility for their actual appointment lies with the Executive Council.

IV. DIET IN THE TREATMENT OF HEART DISEASE*

Proper diet has a place in the rational management of most human disorders. In diseases of the heart, it plays an important although not a stellar rôle. Various special diets are used in cardiac disorders. The most popular ones in this country are the Karrell diet, consisting of 800 cubic centimeters of skimmed milk per day, and F. Smith's¹ liberal carbohydrate diet which amounts to two thousand calories distributed as follows: carbohydrates, 200 grams; protein, 45 to 50 grams; and fats, 100 grams. The carbohydrates are, for the most part, given in the form of cereals and fruit juices to which sugars are added. Ganet in France and S. Smith in England add to an ordinary diet 30 grams of glucose per meal, and for quicker utilization of the extra glucose give small doses of insulin. In cases of coronary thrombosis and

*Editor's Note.—This is the fourth in a series of editorials prepared by Dr. Daniel J. Glomset on modern cardiac therapy. Parts I, II and III appeared in the July, August and September issues of the JOURNAL.

angina pectoris, Master and Jaffe² use a deficiency diet having a value of 800 calories, derived from 80 grams of carbohydrates, 50 grams of protein, and 30 grams of fat. The diet also contains adequate amounts of vitamins and minerals, and from 800 to 1500 cubic centimeters of fluid. Happy results are reported from the reduced metabolism which follows such food intake.

In order to evaluate any or all cardiac diets, it is necessary to bear in mind clearly, first, in what ways diets may aid the cardiac sufferer, and, second, the pertinent facts about the heart's metabolism. Diets can aid in restoring the cardiac person to health first by furnishing in adequate and suitable amounts the food substances needed in the metabolism of the cardiac muscle, and second, by reducing the load of the harassed organ. The special diets of F. Smith, of S. Smith, Ganet, et al., are designed to do the former. Karrell's and Master's diets, as well as the generally employed fluid and salt restriction diets, aim at accomplishing the latter. Since the heart is unquestionably the most vital of all vital organs, it would seem logical to assume that its nourishment is well provided for by nature. Such appears to be the case, for in starvation the heart works efficiently and without loss of substance for some time after other organs show unmistakable evidence of progressive loss of function. Consequently, as long as the diet contains adequate amounts of minerals, vitamins, and ordinary food stuffs, the heart tissue does not appear to lack food.

The energy used in the pumping action of the heart is liberated by a complex chemical process requiring the action and interaction of many chemical substances. In this intricate process, glycogen and even oxygen lose importance proportionately as other substances enter into the reactions. The originators of the diet containing an abundance of glucose have assumed that there is an actual lack of available glucose or glycogen in the failing heart, or else that an abundance of sugar in the blood is conducive to greater cardiac efficiency. So far as I know, there is no evidence of any existing hypoglycemia in the failing heart unless it is induced by the administration of too much insulin. The beneficial results reported from excessive carbohydrate administration in cardiac patients, if such benefits are real, may be due to something other than the nutritional value of the sugars.

To lighten the load of the failing heart by administration of the proper diet is a rational and an important procedure in cardiac therapy. This may be accomplished by semi-starvation diets, by the use of adequate but easily assimilated diets, or

by reducing regimes. It has been known for some time that starvation or semi-starvation diets reduce the metabolic rate in a remarkable manner. The Karrell diet undoubtedly owes its great popularity to the fact that it is easy to administer and that it is a deficiency diet par excellence. If used at all, it should be employed only for a day or two at a time. It would seem more logical to start the waterlogged patient on such a diet as Master and Jaffe have offered, since it has all the theoretical benefit of the Karrell diet, enough carbohydrates to prevent acidosis, enough protein to maintain nitrogenous equilibrium, and a sufficient amount of vitamins.

Such diets cannot be of lasting benefit to the sick. They are designed to give the desperately sick patient a temporary "lift", and should be replaced by a diet that is palatable, sustaining, and of maximum assistance to the troubled organ. Such a diet must be easily assimilable, must not be gas forming, and must be given in small frequent feedings. Four or five meals a day are more easily handled by the edematous intestinal tract than are the usual three. Reduction of fluid intake is also a rational procedure. One should always bear in mind that it is far more important to keep the sufferer as happy and as comfortable as possible than it is to insist on trivial, annoying measures which may have theoretical advantages. Fluid should be curtailed to between 1000 and 1500 cubic centimeters per day. The salt bugaboo which the French foisted upon us many years ago clings to American clinicians like glue. Senseless salt restriction has done untold damage and very little good. I am not aware of any evidence which proves that sodium chloride is retained by the normal or injured kidney, while there is clearcut, unmistakable evidence that salt privation is harmful. There is no sense in limiting it to such an extent as to make food unpalatable, nor in giving so much as to increase thirst.

Proteins through their specific dynamic action are capable of increasing the metabolism as much as fifty per cent or even more.³ For that reason, the patient with a failing heart should have his proteins reduced to a minimum. Newburgh and Marsh⁴ kept their diabetic patients in nitrogenous equilibrium on one-half gram per kilogram of body weight for a year or more. Therefore, these foods may be kept down to 0.60 or 0.75 grams per kilogram as long as necessary. Fortunately, the most adequate proteins are those which are preferred by the great majority of individuals; i. e., meat, milk, eggs, and fish. Hence there should be no difficulty in making a well-fitting, tailor-made diet for each cardiac patient. F. Smith's diet comes as

near to being an ideal basic diet as one can suggest.

Obesity even in its mildest form entails additional labor for the heart. The deleterious effect of extreme grades of it is best appreciated by a thoughtful perusal of the mortality statistics of large insurance companies. The potential cardiac individual should never be permitted to become fat. When the heart of an overweight person shows the least sign of giving out, reduction of weight is imperative, although this reduction should be brought about gradually. Five to six pounds per month is ample loss, and this may be accomplished by omitting fats and enough carbohydrates to effect the desired result. When failure is already present in full blown form, more rapid reduction is needed, but even here it is unwise to limit the diet to less than 1000 calories per day. Such a diet should be buttressed by adequate amounts of vitamins and iron.

In administering diets to cardiac patients, clinicians should remember that various and sundry aids to the human mind exist in medical science, but no substitute for it has as yet been discovered.

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THE BIRTH OF A BABY

Popularizing scientific information so that it is more easily and readily received by the general public has received a tremendous impetus in the development of motion pictures on scientific subjects. This medium is proving both acceptable and commendable and its development in the future is very promising.

The medical profession and the public alike in Iowa have recently become familiar with a motion picture film on syphilis which was prepared jointly by the American Medical Association and the United States Public Health Service. It has been enthusiastically received by the doctors and the laity throughout the state. At the 1937 meeting of the American Medical Association at Atlantic City, a talking picture film entitled "The Birth of a Baby", developed by the American Committee on Maternal Welfare, was shown to the section on Obstetrics, Gynecology and Abdominal Surgery. Mead Johnson and Company aided in the production of the film and its high quality was possible only because it had every advantage of ex-

pert direction, actors, photography and great teaching work.

The showing of the film is to be as ethical as was its production. It may be booked by motion picture theatres only after it has been approved by the proper official body of each state medical society and only under the restrictions and limitations, if any, recommended by that group. This film is of particular interest to the medical profession in Iowa because one of the five members of the special committee which was assigned the duty of working on this project is a member of our own state medical society and faculty of our college of medicine, E. D. Plass, M.D., professor of obstetrics and gynecology, State University of Iowa. The other members of the committee are: Fred L. Adair, professor of obstetrics and gynecology, University of Chicago; James R. McCord, professor of obstetrics and gynecology, Emory University, Atlanta; Arthur J. Skeel, specialist in obstetrics and gynecology, Cleveland; Philip F. Williams, assistant professor of obstetrics, University of Pennsylvania. The Committee on Child Health and Protection reviewed this film for the Iowa State Medical Society on Sunday, September 19. The committee was unanimous in its approval of the film for showing to the public, and enthusiastic regarding its educational possibilities. The value of the film to individuals of all ages and both sexes was so apparent that the committee felt no age restrictions were necessary.

In presenting "The Birth of a Baby", the American Committee on Maternal Welfare stated that it realized the film was neither perfect nor complete but perfection in all details in a medical film was not to be expected. The committee attempted to adhere strictly to scientific facts, to emphasize the minimum essentials of adequate maternal care and to avoid controversial issues. Physicians are urged to view this film so as to be in a position to advise their patients concerning it and to acquaint themselves with the possibilities for education which are afforded by films which are as ethically and scientifically produced as "The Birth of a Baby".

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Medical Economics Committee
State Society Office, Des Moines
September 10, 1937

The Medical Economics Committee of the Iowa State Medical Society met in the central office in Des Moines on Friday, September 10, at 2:00 p. m.
Roll Call: All members of the committee were

present with the exception of James C. Hill of Newton.

Transactions: 1. Discussion of a fair basis upon which to negotiate with the Iowa Emergency Relief Administration, regarding satisfactory adjustment of the medical plan of that organization. 2. Committee agreed that an approximation to the minimum fee schedule was desirable and that no cuts should be made. 3. Discussion of a questionnaire recently sent out by the Marathon Finance Corporation regarding incorporating in their service a plan under which immediate medical accounts and hospitalization could be financed and cash paid out. Committee decided no member of the committee should answer the questionnaire but should seek information relative to the legal status of such plans. 4. Letter from the Iowa Hospital Service Insurance Company of Des Moines read, which invited the Society to appoint as many physicians to its Board of Directors as the Society desired. Representative of the company outlined the plan of hospitalization insurance in detail. Committee voted to approve the appointment of physicians to the Board, provided the Society would be entitled at any time to as many of its members on the Board as would equal one-third of the members of the Board. That would entitle the Society to have three members serve on the Board at this time, appointments to be made by the Executive Council. Committee stressed the fact that it was not approving the company nor the plan, but felt that the medical profession should have a voice in the administration of such plan. 5. Joint meeting with a committee of the Board of Directors of the Iowa Emergency Relief Administration. Viewpoint of the committee regarding the medical plan was explained. The fact that the first fee schedule had proved unsatisfactory and that the emergency nature of the plan had been outlined, necessitating a readjustment of the fee schedule. Committee felt that the minimum fee schedule of the State Society should serve as a basis. Committee from the Emergency Relief Administration said they would have to acquaint the full Board with the attitude of the Medical Economics Committee and advise the Society of its reaction. 6. Work of the committee divided up to facilitate study and handling of matters in the field of medical economics; Dr. Shaw to be responsible for editorials for the JOURNAL; Dr. Hill responsible for data concerning rural resettlement and social security problems; Dr. Moerke to study questions of hospital and medical insurance plans; Dr. Hennessy to investigate questions pertaining to medical care for indigent and low income groups; and Dr. Thornton to supervise the activities of collection agencies approved by the committee and those applying for approval.

Committee on Arrangements
Hotel Fort Des Moines, Des Moines
September 12, 1937

Only two members of the Arrangements Committee were present at the meeting held on Sunday,

September 12, 1937, at the Hotel Fort Des Moines at 1:00 p. m. E. M. Myers, president, Boone, and L. E. Cooley, Dubuque, chairman of the medical section, were in attendance.

Transactions: Plans for the general sessions program were completed, with the acceptance by Father A. M. Schwitalla, dean of the St. Louis University School of Medicine, of the invitation to act as speaker on medical economics on the Friday morning program. C. C. Sturgis, M.D., of the College of Medicine of the University of Michigan, has agreed to act as guest speaker for the medical section, and Otto Jason Dixon, M.D., of Kansas City, Missouri, will be present as guest speaker for the eye, ear, nose and throat section. The outline of the afternoon conferences of the medical section was completed. It was definitely decided to hold the 1938 meeting at the Hotel Fort Des Moines, upon the approval of the Board of Trustees. It was also agreed that a hobby exhibit should be included among the exhibits at the 1938 annual meeting for the first time.

Committee on Child Health and Protection
Strand Theatre, Des Moines
September 19, 1937

A meeting of the Committee on Child Health and Protection of the Iowa State Medical Society was held on Sunday, September 19, at 10:00 a. m. at the Strand Theatre in Des Moines.

Roll Call: Present; R. H. McBride, Sioux City, chairman; H. E. Farnsworth, Storm Lake; Roland Stahr, Fort Dodge; C. P. Phillips, Muscatine; Lee F. Hill, Des Moines. Absent; E. D. Plass, Iowa City; Howard A. Weis, Davenport.

Transactions: 1. Special complimentary preview to members of the committee and invited members of the Polk County Medical Society of the motion picture sound film "The Birth of a Baby" through the courtesy of the Strand Theatre and the Mead Johnson Company. This film was prepared under the direction of the American Committee on Maternal Welfare and other interested health groups. 2. Adoption of the following motion: The Committee on Child Health and Protection of the Iowa State Medical Society approves for public showing the moving picture "The Birth of a Baby." The Committee feels that no age restrictions are necessary.

Iowa Interprofessional Association
Kirkwood Hotel, Des Moines
September 19, 1937

The three members of the Committee on Public Policy and Legislation, Fred Moore, Des Moines; R. D. Bernard, Clarion, and E. L. Wurtzer, Clear Lake, and Robert L. Parker, ex-officio representative, attended the meeting of the Iowa Interprofessional Association held at the Kirkwood Hotel, Sunday, September 19, 1937, at 1:00 p. m. Members from the other professional groups were present as follows: Iowa Pharmaceutical Association, Walter Meads, Des Moines, Alfred E. Thomas, Des Moines, Denny

Brann, Des Moines, J. Earle Galloway, Des Moines, L. C. Zopf, Iowa City; Iowa State Dental Society, W. J. Charters, Des Moines, E. Thoen, Cedar Rapids, J. W. Marion, Des Moines, E. H. Ford, Des Moines; Iowa State Association of Registered Nurses, Alma Hartz, Des Moines, Adah Hershey, Des Moines; Iowa Veterinary Medical Association, Robert D. Wall, Des Moines, E. J. Carey, Liberty Center.

Transactions: 1. Report of the president, Dr. Bernard, on the activities of the Association in the first year of its existence. Eleven new county groups organized and the eighteen already in existence revived. Dr. Bernard stressed the fact that the process was a slow one and could be accomplished only by personal effort, and by individuals coming in from the outside and explaining the purpose of such organization. 2. Report of the secretary-treasurer, Mr. Meads, who pointed out that the burden of the initiative of organizing these county groups would have to be borne by the medical profession, since it was the only one of the five professions well organized on a county basis. He reported that the Association was in good financial condition, with a balance of \$351.30, out of which would come expenses for the day's meeting, and that checks would be received in a few days for unpaid dues in the amount of \$125.00. He stated that the Executive Council had adopted a resolution authorizing payment of expenses incurred by representatives appointed to organize county groups. He outlined the plan in force in South Dakota, where a member of the state department of health represents the interprofessional association in his contacts throughout the state and asked the opinion of the delegates in Iowa toward a similar set-up. 3. Report of the secretary-treasurer approved. 4. Motion carried that the expenses of the three official delegates of the Association, or their alternates to whatever official meetings were called, be paid from the funds of the Association. 5. Resolution of the Executive Council approved. 6. Discussion by every member present regarding the Association and possible activities during the coming year. Main ideas presented were that it was necessary to have a common definite objective, some plan along the line suggested by Mr. Meads where one or more individuals would go about the state, coordinating the efforts at group organization in the counties, and that it was also necessary to have more missionary work within each individual profession. The suggestion was also made that it might be well to have one-half day program a year on an interprofessional program to be included as part of the annual program of one of the member groups; this would give one program a year by having it included in the program of each individual society only once in five years. Suggestions as to objectives were supporting a marriage law similar to that just put into effect in Illinois, legislation concerning the screening of toilet rooms in filling stations, public health exhibits, and radio broadcasts regard-

ing the professions and their relation to the public. 7. Motion carried that the Iowa Interprofessional Association request the several member societies to appoint representatives to meet with the Iowa Interprofessional Association for the purpose of developing an interprofessional program in connection with their respective annual meetings. 8. Election of members of the Executive Council: Iowa Pharmaceutical Association, Mr. Meads; Iowa State Medical Society, Dr. Bernard; Iowa State Association of Registered Nurses, Miss Hartz to hold over until the annual meeting of the nurses' organization; Iowa State Dental Society, Dr. Ford; Iowa Veterinary Medical Association, Dr. Wall. 9. Election of officers of the Executive Council: Dr. Bernard re-elected as president and Mr. Meads re-elected as secretary-treasurer.

Board of Trustees

State Society Office, Des Moines

September 24, 1937

The Board of Trustees of the Iowa State Medical Society met at the central office on Friday, September 24, 1937, at 1:15 p. m.

Roll Call: All members of the Board were present. Others in attendance were: D. J. Glomset, Chairman of the Speakers Bureau Committee; Lee F. Hill, Editor; and Robert L. Parker, Secretary.

Transactions: 1. Approval of bills. 2. Board approved the expense necessary to hold annual meeting at Hotel Fort Des Moines in May, 1938. 3. Complaint made by Dr. Hickenlooper, Chairman of the Woman's Auxiliary Advisory Committee, that the Woman's Auxiliary page in the JOURNAL was not reaching the members of the Auxiliary since the physicians kept their journals in their offices. Board authorized the small expenditure required to send reprints of the page to the members of the Auxiliary. 4. The President of the Woman's Auxiliary wished to budget Auxiliary expenses for the year and requested through the Chairman of the Advisory Committee that the Board of Trustees definitely authorize a sum from the State Society to include in their convention budget. The Board voted that they would augment the convention expense budget of the Woman's Auxiliary for 1938 in an amount not to exceed \$50.00, depending upon the amount needed. 5. Discussion of handling of funds for the Committee on Public Policy and Legislation. 6. Consideration of applications filed for position of Executive Secretary. 7. Appointment of Miss Mary McCord as Acting Executive Secretary, effective October 1, 1937. 8. Discussion of position of secretary of the Speakers Bureau Committee. Board voted to leave this matter open for longer consideration.

INTERNATIONAL MEDICAL ASSEMBLY

As announced in the JOURNAL last month, the Interstate Postgraduate Medical Association of North America will convene in St. Louis, Missouri, October 18, 19, 20, 21 and 22. Feeling that many members of the Iowa State Medical Society might be interested in attending some or all of the sessions, we are here-with publishing a complete list of the addresses, which are to be presented during the afternoons and evenings of the meeting. In addition, twenty-eight diagnostic clinics will be conducted by outstanding lecturers during the mornings of the session.

Monday, October 18

Ulcerative Colitis and Its Surgical Management—Dr. Richard B. Cattell, Lahey Clinic, Boston, Massachusetts.

The Roentgen Treatment of Infections—Dr. Frederick M. Hodges, Richmond, Virginia.

The Treatment of Urinary Infections in Infants and Children—Dr. John R. Caulk, St. Louis, Missouri.

Meningitis Secondary to Disease of the Bones of the Skull—Dr. Wells P. Eagleton, Newark, New Jersey.

Prenatal Care—Dr. Otto H. Schwarz, St. Louis, Missouri.

Granulomatous Lesions of the Intestines—Dr. Claude F. Dixon, Rochester, Minnesota.

Recent Advances in the Field of Abdominal Surgery—Mr. W. Hugh Cowis Romanis, F.R.C.S., London, England.

The Influence of Drugs Upon the Physiology of the Failing Heart—Dr. Maurice B. Visscher, Minneapolis, Minnesota.

The Mechanism and Treatment of Congestive Heart Failure—Dr. Tinsley R. Harrison, Nashville, Tennessee.

The Diagnostic Significance of Abdominal Pain—Dr. Frederick J. Kalteyer, Philadelphia, Pennsylvania.

Carcinoma of the Stomach—Dr. Waltman Walters, Rochester, Minnesota.

Chronic Prostatitis—Dr. Cyrus E. Burford, St. Louis, Missouri.

Tuesday, October 19

Migrane—Dr. Thomas Cecil Hunt, London, England.

Cicatrizing Enteritis, a Neglected Clinical Entity—Dr. Elliott C. Cutler, Boston, Massachusetts.

The Problem of Ocular Tuberculosis—Dr. Allan C. Woods, Baltimore, Maryland.

Combined Abdomino-perineal Resection for Carcinoma of the Rectum—Dr. Thomas E. Jones, Cleveland, Ohio.

Early Diagnosis and Treatment of Cancer of the Cervix—Dr. John R. Fraser, Montreal, Canada.

Growth Disturbances of the Pelvis and Femur Resulting from Diseases of the Hip Joint—Dr. Dallas B. Phemister, Chicago, Illinois.

The Post Hoc Ergo Propter Hoc Fallacy in Medicine—Dr. Robert D. Rudolf, Toronto, Canada.

Allergy as Related to the Otolaryngologist—Dr. Harold G. Tobey, Boston, Massachusetts.

Newer Methods in the Medical Treatment of Peptic

Ulcer—Dr. Horace W. Soper, St. Louis, Missouri.

Subdural Hematoma—Dr. Eric Oldberg, Chicago, Illinois.

Toxemias of Pregnancy—Dr. Nicholson J. Eastman, Baltimore, Maryland.

Wednesday, October 20

X-ray Treatment of the Pituitary Gland—Dr. Merrill C. Sosman, Boston, Massachusetts.

Water Balance in Surgical Patients With Special Reference to Pre- and Postoperative Management—Dr. Frederick P. Collier, Ann Arbor, Michigan.

Anxiety States in General Practice—Dr. William J. Kerr, San Francisco, California.

Thursday, October 21

A New Approach to the Treatment of Peptic Ulcer—Mr. Wilson Hey, F.R.C.S., Manchester, England.

The Adherent Posterior Duodenal Ulcer—Dr. J. William Hinton, New York, N. Y.

The Prevention and Treatment of the Exanthemata—Dr. John A. Toomey, Cleveland, Ohio.

Indication for Hysterectomy and Radium in Fibroid Tumors of the Uterus—Dr. William D. Haggard, Nashville, Tennessee.

Endocarditis—Dr. Ralph A. Kinsella, St. Louis, Missouri.

Recent Advances in Hormone Therapy as Applied to Gynecologic Problems—Dr. Emil Novak, Baltimore, Maryland.

The Surgical Treatment of Diverticulitis—Dr. Fred W. Rankin, Lexington, Kentucky.

Diagnosis and Treatment of Displacements of the Uterus—Dr. William H. Vogt, St. Louis, Missouri.

The Relation of the Development of the Child to the Endocrine System—Dr. Charles R. Stockard, New York, N. Y.

Indications for Exploratory Laparotomy—Dr. William T. Coughlin, St. Louis, Missouri.

Tumors of the Kidney—Dr. Herman L. Kretschmer, Chicago, Illinois.

Friday, October 22

The Surgical Treatment of Arthritis—Dr. Philip D. Wilson, New York, N. Y.

Diet of Infants—Dr. Charles H. Smith, New York, N. Y.

The Relation of the Pituitary, Thyroid, Adrenals, Liver, and Pancreas to Hyperinsulinism and Spontaneous Hypoglycemia—Dr. Seale Harris, Birmingham, Alabama.

Relief of Intractable Pains by Subarachnoid Alcohol Injections, Nerve Blocks, Root Sections, and Chorodotomy—Dr. W. McK. Craig and Dr. Alfred W. Adson, Rochester, Minnesota.

Diagnosis and Treatment of Pneumonia—Dr. Russell L. Cecil, New York, N. Y.

The Significance of Hoarseness and Local Discomfort in Laryngeal Disease—Dr. Gabriel Tucker, Philadelphia, Pennsylvania.

The Surgery of Hermaphroditism and Associated Adrenal Diseases—Dr. Hugh H. Young, Baltimore, Maryland.

The Menace of Postoperative Adhesions—Dr. Fred W. Bailey, St. Louis, Missouri.

SPEAKERS BUREAU ACTIVITIES

POSTGRADUATE COURSES

Below are given the schedules of the postgraduate courses to be presented this fall by the Speakers Bureau. These schedules give the dates of the different lectures, and the names of the speakers, together with meeting places and hours. Letters announcing the courses have been mailed, but this printed outline is given so that every physician in Iowa may know what is available in postgraduate education. All members of the Iowa State Medical Society are urged to attend the course which is most convenient.

Cancer Course, Cedar Rapids, Iowa

- Sept. 28 Present Status of Cancer Knowledge
E. T. Bell, M.D., Minneapolis
- Oct. 5 Malignant Tumors of the Head and Neck
Gordon B. New, M.D., Rochester
- Oct. 12 Evaluation of Radiologic Diagnosis and Treatment
A. U. Desjardins, M.D., Rochester
- Oct. 19 Cancer of the Uterus
E. D. Plass, M.D., Iowa City
- Oct. 26 Morbid Anatomy and Physiology of Malignant Tumors
Richard H. Jaffe, M.D., Chicago
- Nov. 2 Cancer of the Breast
Alexander Brunswick, M.D., Chicago
- Nov. 9 Sarcomas
Erwin R. Schmidt, M.D., Madison
- Nov. 16 Cancer of the Colon and Rectum
Claude F. Dixon, M.D., Rochester
- Hours
6:00-7:00 p. m.—Lecture
7:00-8:00 p. m.—Dinner
8:00-9:00 p. m.—Lecture
FEE, \$10.00

Endocrinology and Metabolism, Sheldon, Iowa

- Oct. 11 Diets in Disease
Clifford J. Barborka, M.D., Chicago
- Oct. 18* Present Status of Knowledge of Arteriosclerosis
- Oct. 25 Modern Treatment of Diabetes
Russell M. Wilder, M.D., Rochester
- Nov. 1 Gonad Hormones in Health and Disease
August A. Werner, M.D., St. Louis
- Nov. 8* Hypertension
- Nov. 15 Recent Advances in Pituitary Physiology
E. M. K. Geiling, M.D., Chicago
- Nov. 22 Vitamins and Their Clinical Significance
A. C. Ivy, M.D., Chicago
- Nov. 29 Endocrine Therapy
E. L. Sevringhaus, M.D., Madison
- Hours
6:00-7:00 p. m.—Lecture
7:00-8:00 p. m.—Dinner
8:00-9:00 p. m.—Lecture

*Tentative.

Endocrinology and Metabolism, Waterloo, Iowa

- Oct. 12 Diets in Disease
Clifford J. Barborka, M.D., Chicago
- Oct. 19* Present Status of Knowledge of Arteriosclerosis
- Oct. 26 Modern Treatment of Diabetes
Russell M. Wilder, M.D., Rochester
- Nov. 2 Gonad Hormones in Health and Disease
August A. Werner, M.D., St. Louis
- Nov. 9* Hypertension
- Nov. 16 Recent Advances in Pituitary Physiology
E. M. K. Geiling, M.D., Chicago
- Nov. 23 Vitamins and Their Clinical Significance
A. C. Ivy, M.D., Chicago
- Nov. 30 Endocrine Therapy
E. L. Sevringhaus, M.D., Madison
- Hours

5:00-6:00 p. m.—Lecture
6:00-7:00 p. m.—Dinner
7:00-8:00 p. m.—Lecture

*Tentative.

General Therapeutics, Algona, Iowa

- Oct. 12 Treatment of Common Skin Disorders
Ruben Nomland, M.D., Iowa City
- Oct. 19 Roentgenologic Diagnosis (Illustrated with slides)
H. D. Kerr, M.D., Iowa City
- Oct. 26* Endocrine Therapy
Edward H. Ryneerson, M.D., Rochester
- Nov. 2 Modern Treatment of Fractures
Robert D. Schrock, M.D., Omaha
- Nov. 9 Modern Treatment of Anemia
Maurice C. Howard, M.D., Omaha
- Nov. 16 Treatment of Bright's Disease
Moses Barron, M.D., Minneapolis
- Nov. 23* Diagnosis of Urologic Conditions in Relation to General Practice
N. G. Alcock, M.D., Iowa City
- Nov. 30 Recent Advances in Treatment of Infectious Diseases in Children
Lee F. Hill, M.D., Des Moines
- Hours
5:00-6:00 p. m.—Lecture—Legion Hall
6:15-7:15 p. m.—Dinner—Algona Hotel
7:30-8:30 p. m.—Lecture—Algona Hotel

*Tentative

RADIO SCHEDULE

WOI and WSUI—Wednesdays at 4:00 p. m.

- Oct. 13 Bright's Disease, Martin I. Olsen, M.D.
- Oct. 20 Common Fractures and Their Treatment, Arch F. O'Donoghue, M.D.
- Oct. 27 Romances of American Medicine—The Story of Surgery, W. W. Bowen, M.D.
- Nov. 3 The Story of Fever Therapy, W. D. Paul, M.D.
- Nov. 10 The Tonsil Problem, E. P. Weih, M.D.

WOMAN'S AUXILIARY NEWS

MRS. FRED MOORE, *Chairman of Press and Publicity Committee*
3407 Lincoln Place Drive, Des Moines

President—MRS. S. E. LINCOLN, 2220 East Thirty-second Street, Des Moines

Secretary—MRS. JAY C. DECKER, 722 Thirty-sixth Street, Sioux City

Treasurer—MRS. WILLIAM R. HORNADAY, 3011 High Street, Des Moines

THE NATIONAL PRESIDENT VISITS IOWA

Mrs. Augustus S. Kech of Altoona, Pennsylvania, president of the Woman's Auxiliary to the American Medical Association, spent Friday, September 10, in Des Moines. A luncheon was held at the Wakonda Club, during which time Edmund Weingart, son of Dr. and Mrs. Julius S. Weingart of Des Moines, played three movements of a Bach Sonata, composed for the violin alone. Mrs. S. E. Lincoln of Des Moines presided and introduced Mrs. H. I. McPherin, also of Des Moines, president-elect of the Polk County Auxiliary, who in turn presented Mrs. Kech to the group. Mrs. Kech in her talk stressed the fact that public relations work is a vital necessity in the medical auxiliary and urged that this work move forward only under the guidance of the medical profession, thereby keeping in midstream, always striking an even keel. She suggested that we inform ourselves of legislative matters pertaining to the medical profession, and that we make an intensive study of the Department of Health and legislative work in the state of Iowa. Mrs. Kech complimented Iowa on its progressive auxiliary work and Mrs. Lincoln on the program for the year. Physicians' wives can and do play an important part in their husbands' careers by being always loyal, courageous and trustworthy, and Mrs. Kech concluded her inspiring message by citing the stories of the lives of two famous doctors' wives, Theressa Jones Sims and Marie Doty Gorgas, as outstanding examples. Mrs. Kech has a very gracious and pleasing personality, and her enthusiasm for auxiliary work and her dramatic ability added much to the interest and value of the meeting.

NEW AUXILIARY FORMED

Members of the Calhoun County Medical Society issued invitations to their wives to meet with them at Rockwell City on September 21, to organize a Woman's Auxiliary. After a presentation of the plans and work of an auxiliary, and a discussion of the same, an organization was effected with the following officers: Mrs. Robert G. Hinrichs of Manson, president; Mrs. Charles T. Farlow of Farnhamville, vice president; Mrs. William W. Stevenson of Rockwell City, secretary; and Mrs. Warren E. McCrary of Lake City, treasurer. We are very glad to welcome into our group this new auxiliary and hope they will be happy in their association with us. They have shown their loyalty to the medical profession by this formal organization, and we wish them all success in their new venture.

Mrs. Channing G. Smith, Organization Chairman.

POLK COUNTY

The Polk County Auxiliary has planned its year's work with the idea of encouraging a better acquaintance within its large membership, and having an organization ready to help the medical society whenever possible. The programs are both social and educational in nature, and splendid health work is being done by members of the auxiliary on committees in various clubs and organizations. On October 12 the auxiliary will be the guest of the Veterans' Hospital Administration. After a tour of the buildings, Mrs. George Parmenter will entertain at tea in her home. She will be assisted by the wives of members of the medical staff of the hospital. A luncheon will be held at Younkers Tea Room on November 19. Guest speakers for the occasion will be Walter L. Bierring, M.D., State Health Commissioner; Walter E. Baker, M.D., president of the Polk County Medical Society; and Miss Adah Hershey, supervisor of the Des Moines Public Health Nursing Service. Polk County cordially invites visiting auxiliary members to these meetings.

Mrs. Hugh B. Woods, President.

IMPORTANT NOTICE

Acting upon the recommendation of Dr. C. B. Hick-enlooper of Winterset, chairman of the Woman's Auxiliary Advisory Committee, and in response to numerous requests from officers of the state auxiliary organization, the Board of Trustees of the Iowa State Medical Society at a meeting held Friday, September 24, authorized the reprinting of material from the Woman's Auxiliary news section which appears each month in the JOURNAL. It has been felt for some time that members of the auxiliaries did not have access to this section of the publication, because JOURNALS were left in the doctors' offices instead of being taken home. The trustees felt that the point was well taken, and accordingly authorized the necessary expenses involved in mailing a reprint of this page to each member of the auxiliary each month. It is the hope of your Publication Committee that appreciation of this generous action of the Board of Trustees will be evidenced in a renewed interest in our page and in the work of the auxiliary.

Mrs. Fred Moore, Chairman.

STATE BOARD MEETING

The following budget was presented and approved for expenditures during the ensuing year:

National Dues	\$109.00
Essay Contest	75.00
Constitutions	30.00
Convention Expenses	75.00
Stationery	22.96
Postage and Telephone—	
Officers	15.00
Chairmen	10.00
Total	\$336.96

SOCIETY PROCEEDINGS

Boone-Story Society

More than seventy-five physicians, members and guests of the Boone and Story County Medical Societies, met at the Ames Country Club, Tuesday, September 14, for the annual "spread" of that organization. The evening program was furnished by Kellogg Speed, M.D., clinical professor of surgery, Rush Medical College, Chicago; and E. D. Plass, M.D., professor of obstetrics and gynecology, State University of Iowa, College of Medicine.

Floyd County

Mark L. Floyd, M.D., of the pediatric department of the State University of Iowa, College of Medicine, was the speaker for the Floyd County Medical Society at its meeting held Tuesday, September 28, in Charles City. Dr. Floyd spoke on Infantile Paralysis.

Jackson County

The Jackson County Medical Society met in regular session, Thursday, September 2, at Bellevue, at which time a symposium on Certain of the More Common Abdominal Disorders was presented by two professors from the State University of Iowa, College of Medicine. Fred M. Smith, M.D., discussed the subject from the medical standpoint, and Frank R. Peterson, M.D., dealt with the surgical phase of the topic.

Johnson County

Azel Ames, M.D., presented the scientific portion of the program for the Johnson County Medical Society when that group met for its regular meeting Wednesday, October 6, at Youde's Inn in Iowa City. Dr. Ames read a paper on Suction Treatment in Empyema.

W. M. Fowler, M.D., Secretary

Lee County

Members of the faculty of the College of Medicine, State University of Iowa, also presented a program for the Lee County Medical Society at a meeting held in Fort Madison, Thursday, September 23. The program which began at four-thirty in the afternoon was as follows: Diagnosis and Treatment of Peripheral Vascular Disease, Horace M. Kornes, M.D., associate professor of medicine; The Diagnosis and Treatment of Common Skin Diseases, Ruben Nomland, M.D., professor of dermatology and syphilology; and After Care in Children's Diseases, Julian D. Boyd, M.D., associate professor of pediatrics.

Linn County

The following program was presented before an audience of 350, including members of the Linn

County Medical Society and their guests, Tuesday, September 14: Hemorrhage Into or Beneath the Rectus Muscles Simulating an Acute Abdomen, Thomas Stephen Cullen, M.D., professor of gynecology, Johns Hopkins University; The Treatment of Peptic Ulcer Based on Physiologic Principles, William E. A. Oschner, M.D., professor of surgery, Tulane University of Louisiana, School of Medicine; and The Treatment of Septic Infections, Edward H. Oschner, M.D., of Chicago.

The Linn County Medical Society convened Friday, October 8, for the following program: Effective Plastic Operations for Deformities About the Eyes, John M. Wheeler, professor of ophthalmology, Columbia University College of Physicians and Surgeons, New York; paper discussed by Cecil S. O'Brien, M.D., professor of ophthalmology, State University of Iowa, College of Medicine, Iowa City, Gordon F. Harkness, M.D., of Davenport, and W. J. Neuzil, M.D., of Cedar Rapids; Things Which the General Practitioner Should Know About Ophthalmology, Meyer Wiener, M.D., of St. Louis, Missouri; paper discussed by Fred W. Bailey, M.D., of Cedar Rapids. A ten minute paper was given by J. Norman Bickert, M.D., of Cedar Rapids, on The Use of Electrocoagulation in the Treatment of Cervicitis and Endocervicitis. Dr. Robert L. Parker of Des Moines, Secretary of the Iowa State Medical Society, was also a guest of the society.

The next meeting of the society will be held Thursday, November 4, at which time the Linn County physicians will entertain as their guest, William Edward Chamberlain, M.D., professor of radiology and roentgenology, Temple University School of Medicine, Philadelphia.

T. F. Hersch, M.D., Program Chairman

Louisa County

Edwin H. Place, M.D., director of the Des Moines County Health Unit, Burlington, spoke before the Louisa County Medical Society, Thursday, September 9, at a meeting held in Morning Sun. Dr. Place chose for his subject, Infantile Paralysis.

Marion County

The Marion County Medical Society and the Marion County Dental Society held a joint meeting in the Masonic Hall at Pleasantville, Thursday, September 23, and the following program was presented: Some of the Relations Between the Physician and the Dentist, A. F. Keeton, D.D.S., of Knoxville; Undulant Fever, with Particular Reference to the Disease in Iowa, Carl F. Jordan, M.D., of the State Department of Health, Des Moines; and Poliomyelitis, D. B. Williams, M.D., of the Veterans Administration Facility, Knoxville.

Polk County

Tuesday, September 28, the Des Moines Academy of Medicine and Polk County Medical Society met for its regular monthly meeting at the Hotel Fort Des Moines in Des Moines. Thomas P. Bond, M.D., spoke on Gonorrhea Septicemia, and the use of sulfanilamide in the treatment of it; Julius S. Weingart, M.D., presented a comprehensive history of syphilis; Walter L. Bierring, M.D., State Health Commissioner, described the state campaign against syphilis; and Carl F. Jordan, M.D., also of the State Department of Health, gave figures on the reporting of cases of syphilis in the state.

Pottawattamie County

Members of the Pottawattamie County Medical Society resumed their regular meetings Monday, September 20, at the Jennie Edmundson Hospital in Council Bluffs, with the following program: Surgical Regional Enteritis, Karl A. Meyer, M.D., professor of surgery, University of Illinois, College of Medicine, Chicago; After Care of Minor Operations on the Anorectal Area, Fred H. Beaumont, M.D., of Council Bluffs; and Management of Obstetric Cases in Rural Practice, Kenneth L. Thompson, M.D., of Oakland.

The next meeting will be held Monday, October 25, at which time the society will entertain Logan Clendenning, M.D., clinical professor of medicine at the University of Kansas, Lawrence, as its guest. Dr. Clendenning will speak on Medical Shrines at Home and Abroad. Other papers to be presented are: Hypoglycemia in the Treatment of Schizophrenia, William E. Ash, M.D., of Council Bluffs; and The Present Status of Prostatic Resection, Gerald V. Caughlan, M.D., also of Council Bluffs.

F. H. Beaumont, M.D., Secretary

Poweshiek County

Floyd O. Rolfs, M.D., of Brooklyn, furnished the scientific program for the Poweshiek County Medical Society, at a meeting held in Montezuma, Tuesday, September 14. Dr. Rolfs read a paper on The Diagnosis and Treatment of the Toxemias of Pregnancy.

Scott County

The regular meeting of the Scott County Medical Society was held Tuesday, September 7, in Davenport, and E. D. Plass, M.D., professor of obstetrics and gynecology, State University of Iowa, College of Medicine, addressed the group on Endocrine Therapy in Obstetrics and Gynecology.

Tama County

Fred Moore, M.D., of Des Moines, spoke before members of the Tama County Medical Society at the meeting held in Garwin, Thursday, September 30. Dr. Moore discussed the subject, Infantile Paralysis. Charles K. McCarthy, M.D., of the State Department of Health, presented plans for the anti-tuberculosis campaign in Tama county.

Van Buren County

A special meeting of the Van Buren County Medical Society was held in Cantril, Thursday, September 16, and the scientific program was furnished by two physicians from Memphis, Missouri; Edward E. Parrish, M.D., and Abram E. Patter, M.D. Charles K. McCarthy, M.D., representing the State Department of Health, presented plans for an anti-tuberculosis campaign in Van Buren County.

C. R. Russell, M.D., Secretary

Washington County

The annual banquet of the Washington County Medical Society was held in Wellman, Tuesday, September 28. Wives of the members were guests for the occasion. The speaker of the evening was Ira H. Pierce, of the pharmacology department of the State University of Iowa, College of Medicine, Iowa City, who gave an illustrated lecture on Recent Advances in Pseudotherapy. Congressman E. C. Eicher was present and spoke on The Cancer Institute; and Mrs. C. W. McLaughlin of Washington, past commander of the Women's Field Army for the Control of Cancer, addressed the group briefly on the work of that organization.

W. S. Kyle, M.D., Secretary

Woodbury County

The Woodbury County Medical Society resumed regular monthly meetings, Monday, September 13, when the group met to hear William E. A. Ochsner, M.D., professor of surgery of Tulane University of Louisiana School of Medicine, New Orleans, present an address on Peptic Ulcer Based on Physiologic Principles.

Austin Flint-Tri District Medical Society

The first meeting of the recently reorganized Austin Flint-Tri District Medical Society was held Thursday, September 9, in Charles City. Seventy-six physicians and guests registered for the session, which was highly successful. William C. Buchbinder, M.D., assistant professor of medicine, Northwestern University Medical School, Chicago, presented an exceptionally fine paper on The Treatment of Peritonitis. Newly elected officers of the society are: Dr. George Crabb of Mason City, president; Dr. Tom J. Irish of Forest City, vice president; Dr. M. G. Bourne of Algona, secretary, and Dr. W. E. Long of Mason City, treasurer.

H. W. Rathe, M.D.

**Iowa and Illinois Central District
Medical Association**

The fall meeting of the Iowa and Illinois Central District Medical Association was held Wednesday, September 29, at the Blackhawk Hotel in Davenport. The session opened at three o'clock, with an address on Coronary Disease, delivered by Fredrick A. Willius, M.D., cardiologist of the Mayo Clinic, Rochester. His paper was discussed by Fred M. Smith, M.D., professor of medicine, State University of Iowa, Col-

lege of Medicine, Iowa City, and J. A. Layman, M.D., of Moline, Illinois. At four o'clock, Alphonse M. Schwitalla, dean of the St. Louis University School of Medicine, and president of the Catholic Hospital Association of the United States and Canada, delivered an address on The Social Aspects of Medical Practice. The afternoon session concluded with a paper on Low Back Pain, presented by George de Tarnowsky, M.D., professor of surgery, University of Illinois School of Medicine, Chicago, and discussed by H. P. Miller, M.D., of Rock Island, Illinois, and W. G. Bessmer, M.D., of Davenport. Dinner was served at six-thirty, and the evening program consisted of an address by Morris Fishbein, M.D., editor of the *Journal of the American Medical Association*, on The Doctor and Social Security.

James Dunn, M.D., Secretary

PERSONAL MENTION

Dr. H. H. Ennis, after practicing in Baxter twenty-three years, has left that town and located in Minneapolis, where he will take special work at the University of Minnesota. **Dr. C. E. Buckley**, formerly of Winchester, Kansas, will take Dr. Ennis' place in Baxter.

Dr. Ernest E. Shaw of Indianola, who represented several southern Iowa Rotary Clubs at the Rotary International Convention held in Nice, France, was a guest speaker at a special meeting of the Leon Rotary Club, Monday, September 27.

Dr. J. J. Potter, a member of the State University of Iowa, College of Medicine staff since 1929, and an associate professor in otolaryngology, is leaving that institution on November 1, and moving to Rockford, Illinois, where he will enter private practice, specializing in diseases of the ear, nose and throat.

Dr. Lawrence E. Hudgel, who was graduated in 1936 from the State University of Iowa, College of Medicine, will be associated with Dr. W. C. Hand in Hartley. Dr. Hudgel served his internship at St. Joseph's Hospital in South Bend, Indiana.

Dr. Otis Wolfe of Marshalltown, returned home September 20, from a visit to the Orient, as a special representative of the International College of Surgeons. He visited the regents of the society in China and Japan.

Dr. Bruce V. Andersen, formerly of St. Edward, Nebraska, has located in Greene, where he will take over the practice of the late Dr. M. B. Call. Dr. Andersen was recently graduated from the University of Nebraska College of Medicine.

Dr. E. J. Watson of Diagonal, addressed a public meeting in Creston, Tuesday, September 28, giving

an illustrated lecture on "Syphilis." The meeting was sponsored by the Creston Kiwanis Club.

Dr. K. P. Hunter, who has practiced medicine at Havelock for the past seven years, has left that community, and located in Rolfe.

Dr. J. L. Deuterman, who has been a member of the surgical staff of The Mayo Clinic in Rochester for the past five years, has joined the staff of the Hampton Clinic in Hampton. Dr. Deuterman was graduated in 1930 from the University of Virginia Department of Medicine.

Dr. James Dunn of Davenport, was the speaker of the evening when the Wapello Community Club met in Wapello, Monday, October 4. Dr. Dunn spoke on "Infantile Paralysis."

Dr. P. O. Nelson has located in Emmetsburg, after being engaged in the practice of medicine in Ayrshire for the past seventeen years.

Dr. F. L. Wahrer of Marshalltown, returned home September 27 from Cincinnati, Ohio, where he attended the Sixteenth Annual Session of the American Congress of Physical Therapy. Dr. Wahrer was installed as president of this national organization for the coming year at this meeting.

Dr. H. S. Elmquist, who has practiced medicine in Cambridge for the past several years, has accepted a position on the staff of the pathology department of the State University of Iowa, College of Medicine, Iowa City.

Dr. R. O. Hughes of Ottumwa, was guest speaker for the Fairfield Lions Club, at the regular meeting of that organization held at the Leggett Hotel, Tuesday, September 21. Dr. Hughes spoke on "Infantile Paralysis."

Dr. E. S. Korfmacher, who has been practicing in Grinnell for the past seven years, is leaving with his family for Philadelphia, where he plans to take a postgraduate course in surgery at the University of Pennsylvania Graduate School of Medicine. During Dr. Korfmacher's absence, his practice will be taken care of by Dr. Thomas E. Brobyn, who comes from Detroit, Michigan, where he has been a resident physician in the Woman's Hospital of that city for the past two years. Dr. Brobyn was graduated in 1933 from Temple University School of Medicine, and served his internship at the Good Samaritan Hospital in Lexington, Kentucky.

Dr. Gerrit Maris of Hull addressed members of the Rock Rapids Kiwanis Club, Thursday, September 16, on "The Heart and Its Ailments."

Dr. G. F. Spielhagen is leaving Iowa City, where he has practiced since 1933, and is planning to enter the private practice of medicine in either Omaha, or Auburn, Nebraska.

Dr. James W. Lannon, a recent graduate of the Creighton University School of Medicine, Omaha, has located in Fort Dodge, where he will be associated with Dr. E. F. Beeh in the practice of general medicine and surgery.

Dr. R. P. Frink, a practicing physician in Wagner, South Dakota, for the past thirty-four years, has left that locality, and moved to Sanborn, where he will establish a practice.

According to a report received September 1, 1937, the following Iowa physicians have been granted certificates by the American Board of Pathology: Dr. Frederick H. Lamb of Davenport; Dr. F. P. McNamara of Dubuque; Dr. Allen C. Starry of Sioux City; and Dr. Kenneth M. Brinkhous, Dr. Harry P. Smith, and Dr. E. D. Warner, all of the State University of Iowa, College of Medicine, Iowa City.

DEATH NOTICES

Dorsey, Frank Blinn, Sr., of Keokuk, aged seventy-nine, died September 8, after an acute illness of stomach and intestinal disorders. He was graduated in 1881 from the College of Physicians and Surgeons, Keokuk, and at the time of his death was a member in good standing of the Lee County Medical Society.

Fuller, Quintus Colton, of Milford, aged seventy, was killed September 24, in an automobile accident. He was graduated in 1892 from Drake University College of Medicine, Des Moines, and at the time of his death was a member in good standing of the Dickinson County Medical Society.

Kauffman, Edward Charles, of Union, aged sixty-five, died September 16 at the Deaconess Hospital in Marshalltown following an illness of heart disease. He was graduated in 1901 from the State University of Iowa, College of Homeopathic Medicine, and at the time of his death was a member in good standing of the Hardin County Medical Society.

Leech, Louis Josiah, of West Branch, aged ninety-one, died September 23 in the Methodist Hospital in Madison, Wisconsin, after an operation had been performed on his knee which he had injured in a fall September 6. He was graduated in 1881 from the State University of Iowa, College of Medicine, and at the time of his death was a life member of the Cedar County and Iowa State Medical Societies.

Speaker, Everett Elmer, of Lake View, aged sixty, died August 30, following a long illness due to heart disease. He was graduated in 1897 from the State University of Iowa, College of Homeopathic Medicine, and at the time of his death was a member in good standing of the Sac County Medical Society.

Sperry, Wade, of Hamburg, aged seventy-six, died September 8. Dr. Sperry was graduated in 1895 from Ensworth Medical College, St. Joseph, Missouri, and had long been a member of the Fremont County Medical Society.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the Journal office.

Military Surgeons Fortieth Annual Convention—October 14 to 16, Hotel Ambassador, Los Angeles, California.

Omaha Mid-West Clinical Society, Fifth Annual Assembly, October 17 to 22, Hotel Paxton, Omaha, Nebraska.

International Medical Assembly, Interstate Post-graduate Medical Association of North America, October 18 to 22, 1937, Municipal Auditorium, St. Louis, Missouri.

Fifteenth Annual Meeting of the Academy of Physical Medicine, October 19 to 21, Hotel Walton, Philadelphia, Pennsylvania.

New York Academy of Medicine, 1937, Annual Graduate Fortnight—November 1 to 12, New York.

American Board of Obstetrics and Gynecology will conduct examination November 6, 1937. All applications must be filed at least sixty days before the date of examination.

Iowa Academy of Ophthalmology and Otolaryngology, November 18, Hotel Fort Des Moines, Des Moines, Iowa.

Pan American Medical Association, Seventh Cruise-Congress, Steamship Queen of Bermuda leaves New York for Havana, January 15, 1938.

American Association of Orthopedic Surgeons, Annual Meeting—January 16 to 20, 1938, Hotel Biltmore, Los Angeles, California.

American College of Physicians, Twenty-second Annual Session, April 4 to 8, 1938, New York City.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. McCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

The Story of Bacteriology at the University of Iowa

WALTER L. BIERRING, M.D., Des Moines, Iowa

The Story of Bacteriology at the University of Iowa may, to a certain extent, read like an autobiography, yet the character of its development, particularly during the early formative period, naturally reflected the impressions gained by the writer in preparation for the teaching of this new science.

The study of bacteriology had its beginning in the botanical laboratory of Professor Thomas H. Macbride. For a number of years up to 1890 elective courses in the study of bacteria were announced, usually of three months' duration. The interest of Professor Macbride in the higher fungi, such as mushrooms, toadstools, and the like, directed his attention to the study of the molds (*Hyphomycetes*), the yeasts (*Blastomycetes*) and then to the lowest forms of plant life, the bacteria or *schizomycetes*. He was among the first to demonstrate these micro-organisms by means of the microscope and promote their study in relation to the preservation of food, the usefulness of yeasts, and gradually to the study of bacteria connected with disease in lower animals and the human person, although pathogenic bacteria were avoided in Professor Macbride's laboratory. Here for the first time culture media were prepared and their use demonstrated for the cultivation of bacteria. At first nutrient bouillon and potato media were used, after which solid media were added later in the form of gelatine culture tubes and plates. Thus the student was given a glimpse into a new realm, that of an infinitely small, fascinating world, and the work under the inspiring enthusiasm of that master scientist at the threshold of the study of medicine left an enduring impress.

Another guiding spirit in the early days of bacteriology was Dr. Lawrence W. Littig, who came to the medical faculty in the fall of 1889 as pro-

fessor of anatomy. He returned to his alma mater after having obtained a second degree of doctor of medicine at the University of Pennsylvania, membership in the Royal College of Surgeons of England, and after the completion of four years of study in the laboratories and clinics of London, Berlin, Vienna and Paris. This had included a course in bacteriology under Professor Robert Koch at the Institute for Infectious Diseases in Berlin. Dr. Littig brought the first oil immersion lens to Iowa and permitted students the privilege of seeing the tubercle bacillus in sputum and tissues, anthrax bacilli with spores, and typhoid bacilli with flagella in the microscopic field.

Acknowledgment should also be given to another newcomer in the faculty of medicine, Professor E. W. Rockwood, for inspiring further interest in the newer fields of scientific medicine. Fresh from the laboratory of Professor Hoppe-Seyler of Strassburg, the leading physiologic chemist of his time, he organized the first department and laboratory of physiologic chemistry in this section of the United States. His teachings opened up another new field of thought and investigation for the inquiring student.

During the senior year, 1891-92, Dr. J. M. Parker was appointed as professor of pathology. He also had had extensive European training. His course was limited to lectures and laboratory demonstrations in pathologic histology and gross pathology, but the bacterial origin of disease was emphasized in frequent references to pathogenesis. Dr. Parker was unable to complete the course, because of illness, which also prevented his teaching the following year 1892-93, during which session the laboratories of pathology and histology were under the supervision of Dr. Samuel Calvin, Ph.D., professor of geology, and the laboratory

of pathology was in charge of Dr. Edward H. Williams, a classmate of the writer.

During the latter part of the junior year 1891 the writer was called to the office of the Dean, Dr. William D. Middleton, and asked to consider several years of postgraduate study in European medical centers in preparation for a teaching post in pathology and bacteriology. The economic obstacle seemed almost insurmountable at the time, but the opportunity was finally made possible through the sacrifice of high minded parents, and within ten days after graduation, in company with a classmate, Dr. Karl Vollmer of Davenport, we sailed on the S. S. Spree, North German Lloyd Line, March 22, 1892, landing at Bremen, Germany. After brief visits in Berlin, Dresden, and Prague, Vienna was reached early in the month of April. Vienna during the early nineties was the most popular postgraduate medical center in Europe for American students. It was still in that halo day often referred to as the "Glanz-Periode" of medicine in Vienna. The medical school with its laboratories in the basic sciences was grouped around the general hospital "Das Allgemeine Krankenhaus" with its 2,600 beds. Within its walls at that time there were over 10,000 births and more than 2,700 deaths annually. Since practically every death came to autopsy, unusual opportunities were offered in the way of studying gross pathology.

Great names were then a part of Vienna medicine. There was Nothnagel, Kraus, Neusser and Kovacs in internal medicine; Billroth, Eiselsberg and Albert in surgery; Lorenz in orthopedic surgery; Chrobac, Schauta and Braun in obstetrics and gynecology; Frankl-Hochwart and Krafft-Ebing in neurology and psychiatry; Kaposi in dermatology; Kolisko, Weichselbaum, Paltauf and Gruber in pathology and bacteriology; Ebner in histology; Obersteimer in neuropathology; Fuchs and Stellwag in diseases of the eye; Politzer, Gruber and Urbanschitsh in otology; and Schnitzler, Hajek and Chiari on diseases of the nose and throat. For a student who had just completed a medical course of three years of six months each, where the teaching hospital had a capacity of only fifty beds, the field of opportunity as offered by the Vienna school was overwhelming, to state it mildly. Shortly after arriving in Vienna the following letter was received:

Iowa City, Iowa, April 30, 1892.

Dr. Walter L. Bierring

Vienna, Austria.

Dear Doctor:

At a meeting of the committee in the Medical Department of the Board of Regents it was agreed

and ordered that the Dean of the Medical Department notify you to prepare yourself to take the position of Professor of Pathology and Bacteriology at the commencement of the session 1893-1894. This will give you ample facilities to prepare for the work. Let me congratulate you, my dear Doctor, on your appointment.

Yours truly,

J. C. Shrader, Dean

Medical Department.

Two schools of bacteriology during this period were beginning to shape the current of thought in all fields of medicine; that of Louis Pasteur in Paris and that of Robert Koch in Berlin. Pasteur was recognized as the father of the science of bacteriology; his investigations in wound infection formed the basis of Lister's development of antiseptic and aseptic surgery. One of the surgeons of Lister's time, who developed his ideas in new fields, was Billroth, the outstanding surgeon of the Vienna school. He was referred to as the pioneer of "visceral surgery." Some twenty years before, when the science of bacteriology was yet unborn, Billroth, with his "coeco-bacterium septicum" had undoubtedly grasped the correct conception of wound infection. The triumph of Pasteur in the control of rabies by protective inoculation of an attenuated virus was stimulating further studies in immunity and the factors concerned with resistance and susceptibility to infectious diseases.

In the German and Austrian schools of medicine the teachings of Robert Koch predominated to a great extent. His discovery of the tubercle bacillus and pathogenic relation to the disease tuberculosis, the demonstration of the causative *Spirillum* of Asiatic cholera, as well as the comprehensive studies on the anthrax bacillus had established his fame as a bacteriologist. The introduction of solid culture media by Koch had placed all bacteriologic investigations on a firmer foundation. The department of bacteriology in the University of Vienna was in charge of Professor Gruber, a former assistant of Robert Koch, and it was in this laboratory that the writer was privileged to begin the systematic study of bacteriology. This period was largely devoted to learning the technic of preparing culture media and the study of known pathogenic micro-organisms and their morphology and biologic characteristics in pure culture.

There was a natural desire to have a course of instruction at the Institute of Infectious Diseases of Berlin with Professor Robert Koch, but unfortunately, during this year, 1892, admittance could not be arranged. It was learned, however, that a similar course was being established during

the summer semester at the University of Heidelberg by Professor Paul Ernst, a former assistant at the Institute in Berlin. A place was secured, and it proved an unusual opportunity. Special emphasis in the course was placed on the new tinctorial methods of staining the different bacteria, the demonstration of spores in anthrax bacilli, and the flagella of the *Bacillus typhosus*. The epidemic of asiatic cholera prevailing that summer in Hamburg permitted special study of the causative micro-organism of this disease. The experimental inoculation of animals was a special feature of the course. It was an interesting period of study, and the semester spent in dear old Heidelberg with its historic traditions is always happily remembered.

Studies were resumed in Vienna at the beginning of the winter semester. Work was continued in the laboratory of Professor Gruber with special reference to the study of the typhoid and colon bacillus group of organisms. A case of asiatic cholera developed in the Allgemeine Krankenhaus and the autopsy afforded an unusual opportunity for a study of pathologic changes as well as the causative infective micro-organism, the cholera spirillum or comma bacillus. Opportunity was offered also for a better study of the anaerobic organisms. Special courses were taken in the laboratory of Professor Riehl, the dermatologist, to study infectious lesions of the skin and subcutaneous tissues such as lupus, leprosy, actinomycosis, and the trichophyton tonsurans (ringworm) group of organisms. Opportunity was also offered to study with Professor Weichselbaum, the discoverer of the pneumococcus and the meningococcus.

Professor Kaposi kept two English girls from the island of Sumatra with tuberculous leprosy for a period of a year in his dermatologic wards in order to demonstrate that leprosy was not contagious or transmissible except by direct or immediate contact. One of the privileges of the year was to come under the tutelage of Professor Richard Paltauf, a leading pathologist of his period, as evidenced by his pioneer contributions in the field of rare neoplasms such as intercarotid tumors, endotheliomas and hypernephromas. He also had unusual foresight as to the relation of bacteriology to clinical medicine, and the significance of immunology far ahead of his time. He later became the first director of the Royal Serum Institute in Vienna. There was a keen regret when it was necessary to interrupt the Vienna studies in order to return to Iowa to assume the new post of path-

ology and bacteriology at the university for the fall term in 1893-94.

The return journey included a brief visit in Paris where Dr. L. W. Littig had just completed a course in bacteriology at the Pasteur Institute. His enthusiastic description of this famous Institute and its opportunities for research in infectious diseases stimulated a hope and desire to return to this mecca of bacteriologic investigation. In passing through London we came within the presence of Lord Lister at Kings College from which he retired that year. A few weeks later in September, 1893, came that memorable and historic meeting of Lister and Pasteur at the Sorbonne in Paris where Lister embraced Pasteur and brought the tribute and homage of the scientific world for his contribution to medical science and human welfare. This formed the closing scene in the recent cinema film "Pasteur" in which the great scientist was so vividly portrayed by the actor Paul Muni.

Upon arrival at the old Rock Island station in Iowa City late in September, 1893, the writer was met by two undergraduate students, William R. Whiteis (M. '95) and Lee Wallace Dean (M. '96), who presented applications for positions as laboratory assistants. When they were told that the total budget for assistants was \$100.00 they promptly responded that the amount was satisfactory, and they would divide it between them. Thus two future professors began their careers in teaching in the University of Iowa medical school. The department of pathology and bacteriology was definitely organized on a full time basis with the professor having a full vote in the medical faculty. It was among the first departments in these subjects established on a full time basis in university medical schools west of the Alleghanies.

PREVALENCE OF DISEASE

	Aug. '37	July '37	Aug. '36	Most Cases Reported From
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Diphtheria	5	15	13	(For State)
Scarlet Fever	71	117	79	Polk, Woodbury
Typhoid Fever	22	14	22	Cerro Gordo, Polk
Smallpox	16	111	7	(For State)
Measles	20	38	3	Linn, Pottawattamie
Whooping Cough ..	130	152	50	(For State)
Cerebrospinal				
Meningitis	1	7	8	Scott
Chickenpox	10	57	15	Boone
Mumps	8	12	28	Monona
Poliomyelitis	37	7	6	(For State)
Tuberculosis	44	44	42	(For State)
Undulant Fever	14	11	15	(For State)
Gonorrhea	238	216	184	(For State)
Syphilis	304	299	88	(For State)

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

- CLINICAL ALLERGY**—By Louis Tuft, M.D., Chief of Clinic of Allergy and Applied Immunology, Temple University Hospital, Philadelphia. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.
- CLINICAL ENDOCRINOLOGY**—By Samuel A. Loewenberg, M.D., clinical professor of medicine, Jefferson Medical College, Philadelphia. With 194 illustrations and 37 charts and tables. F. A. Davis Company, Philadelphia, 1937. Price, \$8.00.
- CLINICAL REVIEWS OF THE PITTSBURGH DIAGNOSTIC CLINIC**—Edited by H. M. Margolis, M.D., Pittsburgh. Paul B. Hoeber, Inc., New York, 1937. Price, \$5.50.
- COLLECTED PAPERS OF THE MAYO CLINIC**—Edited by Richard M. Hewitt, M.D., Lloyd G. Potter, M.D., and A. B. Nevling, M.D., Volume XXVIII. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$12.00.
- ELECTROCARDIOGRAPHY**—By Chauncey C. Mayer, M.D., assistant professor of medicine, Northwestern University. Second edition. William Wood and Company, Baltimore, 1937. Price, \$4.00.
- HEALTH EDUCATION OF THE PUBLIC**—By W. W. Bauer, M.D., Director of the Bureau of Health and Public Instruction, American Medical Association; and Thomas G. Hull, Ph.D., associate professor of bacteriology, University of Illinois, College of Medicine. Illustrated. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$2.50.
- HEART FAILURE**—By Arthur M. Fishberg, M.D., associate in medicine, Mount Sinai Hospital, New York City. Octavo, 788 pages, illustrated. Lea & Febiger, Philadelphia, 1937. Price, \$8.50.
- THE INTERNATIONAL MEDICAL ANNUAL**—Edited by H. Letheby Tidy, M.D., and A. Rendle Short, M.D. William Wood and Company, Baltimore, 1937. Price, \$6.00.
- THE LARYNX AND ITS DISEASES**—By Chevalier Jackson, M.D., and Chevalier L. Jackson, M.D., Temple University, Philadelphia. 555 pages with 221 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.
- THE NORMAL ENCEPHALOGRAM**—By Leo M. Davidoff, M.D., assistant professor of neurology, Columbia University College of Physicians and Surgeons; and Cornelius G. Dyke, M.D., assistant professor of radiology, Columbia University College of Physicians and Surgeons. Lea and Febiger, Philadelphia, 1937. Price, \$5.50.
- PERSONAL HYGIENE**—By C. E. Turner, M.A., Dr. P.H., professor of biology and public health in the Massachusetts Institute of Technology. With 84 text illustrations and three colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$2.25.
- PHYSICAL DIAGNOSIS**—By Don C. Sutton, M.D., associate professor of medicine, Northwestern University School of Medicine. With 298 text illustrations and eight colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.
- THE TECHNIC OF LOCAL ANESTHESIA**—By Arthur E. Hertzler, M.D., professor of surgery, University of Kansas. Sixth edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.
- A TEXTBOOK OF SURGICAL NURSING**—By Henry S. Brookes, Jr., M.D., instructor in clinical surgery, Washington University School of Medicine. With 233 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.50.

BOOK REVIEWS

THE 1936 YEAR BOOK OF PEDIATRICS

Edited by Isaac A. Abt, M.D., professor of pediatrics, Northwestern University Medical School, with the collaboration of Arthur F. Abt, B.S., M.D., associate in pediatrics, Northwestern University Medical School. The Year Book Publishers, Inc., 304 South Dearborn St., Chicago, 1937. Price, \$2.50.

The 1936 Year Book of Pediatrics consists of abstracts of importance and of interest selected from the pediatric literature of the last year. The material is well organized and classified under the newborn, infant feeding, infectious diseases, etc. This volume is not just a review of the pediatric literature, for the editor appraises the material in a characteristic manner which adds materially to the value of the volume.

D.H.K.

ELECTROCARDIOGRAPHY

By Chauncey C. Mayer, M.D., assistant professor of medicine, Northwestern University. Second edition. William Wood and Company, Baltimore, 1937. Price, \$4.00.

This, the second edition, opens with a brief introduction by the author in which he emphasizes the importance of correlating the electrocardiogram with the clinical study. The clinical study, he states, can be much aided and improved by classifying all heart cases according to the American Heart Association

classification, as well as by the possession of a definite knowledge of the arrhythmias. In addition to this a thorough knowledge of the conduction system is essential. With proper attention to these three factors the clinical study of heart disease will be much more exact. The author then gives The American Heart Association classification with a brief clinical discussion of the arrhythmias and their recognition and of the conduction system. There is also a brief description of the electrocardiograph.

The remainder and the largest portion of the book describes the electrocardiogram. Normal electrocardiograms are given first, after which the author gives samples with interpretations of the arrhythmias, conduction deformities, axis deviation, the changes that result from coronary occlusion and the effect of various drugs on the electrocardiogram. A chapter is devoted to clinical syndromes and their electrocardiographic diagnosis as seen in rheumatic heart disease, hypertensive heart disease, etc. The closing chapter outlines a routine for electrocardiographic interpretations and gives a diagram of various types of heart block and cardiac arrhythmias.

The arrangement of the book is excellent. The diagrams of the heart and conduction system which accompany each electrocardiogram, indicating the site of the lesion, are unique and very helpful. This feature makes the book valuable for a beginner in the study of electrocardiography, and leads the physician and the student to a fuller understanding of the pathology of heart disease. The reviewer recommends the volume without any reservations.

E.E.K.

CHILDBIRTH YESTERDAY AND TODAY

By A. J. Rongy, M.D., attending obstetrician and gynecologist, Lebanon Hospital. Illustrated. Emerson Books, Inc., 251 West 19th Street, New York. Price, \$2.00.

This is a very interesting book, written in simple language, dealing with the history of childbirth and its technic among primitive and modern peoples of antiquity and today. It deals with the mysticism, superstition and ignorance which surrounded this most important event in the life of each of us, and the struggle of science to overcome them and make childbirth today a comparatively safe procedure.

There are also chapters on abortion and birth control which make one think seriously on the need for the latter if the former are to be prevented.

A.D.J.

INTERNATIONAL CLINICS

Volume II, Forty-seventh series. Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia and London, 1937.

Among the valuable contributions to this volume is that of James F. Rinehart of the University of California on the experimental basis and the validity of the thesis that Vitamin C deficiency may be an important contributing factor in the etiology of rheumatic fever. Friedenwald and Morrison of the University of Maryland present an excellent paper on the clinical significance of abdominal pain that will prove of value to anyone in the practice of medicine. The rôle of the gastric secretion in pernicious anemia is discussed by Morrison. One of the finest papers in the volume is that of McCloskey on chronic appendicitis, in which the author presents excellent photographs of pathologic specimens to demonstrate the rôle of mechanical factors in the production of appendicitis.

The reviewer is impressed with the high caliber of this publication and its value to every physician, regardless of his specialty.

D.H.K.

INTERNATIONAL CLINICS

Volume I, Forty-seventh series. Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore, Maryland. J. B. Lippincott Company, Philadelphia and London, 1937.

This volume of this valuable publication contains many excellent and interesting papers of practical value to the clinician. The discussion of lobar pneumonia by Montgomery of the Montreal General Hospital presents the bacteriology, the various methods of typing, the pathology and the treatment in a very lucid and concise manner. Particularly valuable is the technic and the evaluation of specific serum therapy. Pneumothorax in the treatment of pneu-

monia is considered as still being in the experimental stage and is not recommended for general practice. Two excellent papers on bronchiectasis, one by King and one by Marcy, present the pathologic and clinical picture clearly. The excellent results obtained by lobectomy at the Massachusetts General Hospital are extremely encouraging. In a group of forty-nine cases treated surgically there was a case mortality rate of 6.1 per cent, with complete cures in thirty patients. In addition to several papers on different phases of cardiac and renal disease and an excellent discussion of spontaneous pneumothorax, there is a valuable review of recent advances in carbohydrate metabolism by A. Cantarow, biochemist to the Jefferson Hospital.

D.H.K.

PERSONAL HYGIENE

By C. E. Turner, M.A., Dr. P.H., professor of biology and public health, Massachusetts Institute of Technology. With 84 text illustrations, and three colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$2.25.

This work is an authentic text designed to teach the college student the fundamental principles of personal health, to assist him in the adjustment to a new environment and individual health problems. The content incorporates basic teachings in anatomy, physiology, nutrition and communicable disease. This small volume of three hundred pages is excellent. It should prove to be a valuable text for a college course in personal health. The physician in general practice will find this book a reliable and instructive source of information for adult patients.

D.H.K.

PHYSICAL DIAGNOSIS

By Don C. Sutton, M.D., associate professor of medicine, Northwestern University School of Medicine. With 298 text illustrations and eight colored plates. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.

This textbook of physical diagnosis for the student and the physician is an excellent book, well edited and beautifully illustrated by a profusion of well chosen photographs, x-rays and diagrams. It is dedicated to Dr. Robert Bruce Preble who for years has been an outstanding exponent of physical diagnosis and of intellectual honesty in medical diagnosis. Dr. Charles A. Elliott introduces the book with a discussion of the place of physical diagnosis in the medical curriculum and its importance in medical diagnosis. A chapter on the history of physical diagnosis by Irving S. Cutter is a valuable addition to the volume. The text consists of a very lucid presentation of history taking and a concise elaboration of the general physical examination and the examination of the various anatomic systems of the body. A book of this type is a valuable addition to any medical library.

D.H.K.

ENDOCRINOLOGY: CLINICAL APPLICATION AND TREATMENT

By August A. Werner, M.D., assistant professor of internal medicine, St. Louis University School of Medicine. Octavo of 672 pages, illustrated with 265 engravings. Lea and Febiger, Philadelphia, 1937. Price, \$8.50.

Endocrinology is a phase of medicine which is undergoing such rapid expansion that the mass of accumulated facts and theories is swiftly overwhelming the general practitioner. In this volume the author gives a resumé of that which is known and that which is postulated concerning the normal and abnormal physiology of the ductless glands, and depicts the physical types resulting from their dysfunction.

The book is well written and easily read, and is replete with many illustrations and case histories which are followed by the author's analysis of the syndrome presented. Of especial interest is his emphasis and elaboration of the importance of somatic development and distribution in obtaining an insight to the underlying endocrinologic disturbance. In the usage of the estrogenic hormone, the author advocates the utilization of smaller periodic dosages as opposed to occasional massive doses.

The book is deserving of space in the general practitioner's library, since it presents its subject in such a condensed, albeit complete form, that it is easily understandable and suitable for application in general therapeutics. The bibliography, which is extensive, is given in the form of footnotes, thus making for easier cross references. M.A.D.

NEW AND NONOFFICIAL REMEDIES, 1937

Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1937. American Medical Association, Chicago, 1937. Price, \$1.50.

The annual editions of this volume contain all that the busy physician needs to know concerning the newer preparations which he is daily importuned by the detail men of the pharmaceutical manufacturers to use. The remedies listed and described here have been examined and found acceptable by the Council on Pharmacy and Chemistry, the deliberative body charged by the American Medical Association with the performance of this service for the practitioner, who has not the time or means to make the determinations for himself.

Some new drugs have been added in the 1937 edition, the descriptions of which will be found in the groupings to which they belong. There are some noteworthy changes in classification. The various vaso-constrictors, benzedrine, ephedrine, epinephrine and neo-synephrin, have been grouped together as phenylalkylamine derivatives under the heading

"Epinephrine and Related Preparations." This terminology is in keeping with the Council's policy of avoiding therapeutically suggestive names. Another similar change is the abandonment of the classification "Medicinal Foods" and the substitution of a chapter under the title "Vitamins and Vitamin Preparations for Therapeutic and Prophylactic Use" in the previous edition. The consideration of other classes of food preparations was long ago transferred to the Council on Foods. The chapter "Organs of Animals" which has heretofore included only endocrine preparations has been expanded by transfers to this heading of the chapters on liver and stomach preparations, and on insulin.

The book contains general articles, descriptive of the classification under which the various drugs are listed. According to the preface, more or less thorough-going revisions have been made of the following articles: arsenic compounds, compounds containing trivalent arsenic, compounds containing pentavalent arsenic, bismuth compounds, epinephrine and related preparations, iodine compounds, iodine compounds for systemic use, mercury and mercury compounds, pituitary gland, salicylic acid compounds, serums and vaccines, antipneumococcal serums, silver preparations, and tannic acid derivatives.

PEDIATRIC DIETETICS

By N. Thomas Saxl, M.D., associate and lecturer in diseases of children, New York Postgraduate Medical School, Columbia University. Illustrated with 57 engravings and two color plates. Lea and Febiger, Philadelphia, 1937. Price, \$7.00.

The volume under discussion is a book of dietetics for infants and children by an able author of many years' experience in the practice of pediatrics. Part I considers the mechanics and the chemistry of digestion during infancy and childhood, presenting the various forms and types of foods, their qualitative and quantitative compositions and their application in modern dietetics. Part II is devoted to maternal nursing and to artificial infant feeding, including information concerning proprietary preparations in infant feeding. The dietetic management of various diseases of childhood are discussed in Part III. The appendix contains valuable tables of foods and their composition, excellent recipes, mineral and vitamin tables and a bibliography.

This is not just another book on dietetics. Rather it is a very valuable addition to the library of everyone interested in the nutrition of infants and children. It contains a vast amount of information and incorporates the newer knowledge of foods and of nutrition.

The reviewer commends the author for a splendid work, and recommends it with confidence to the physician as a sane and reliable source of information.

D.H.K.

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THE AVOIDANCE OF PERMANENT COLONIC STOMA IN SURGERY OF THE COLON*

CLAUDE F. DIXON, M.D.

Division of Surgery, The Mayo Clinic
Rochester, Minnesota

It is not always possible to manage surgical lesions of the colon by a standardized type of operation. The selection of the surgical procedure is influenced by the segment of bowel involved, its function, its anatomic variation; the situation of the affected segment, or the presence of a short mesentery which may interfere with satisfactory mobilization. For instance, operative treatment of the right half of the colon in which the content is liquid and the function is mainly that of absorption, can be performed in one stage in about 50 per cent of the cases. For the left half of the colon, the content of which is semisolid, multiple stage operations are preferable. Another reason that operations for colonic lesions cannot be considered to be standardized is that all surgeons do not agree in regard to the management of certain surgical colonic lesions. The patient's choice is some type of operation that will permit subsequently normal function in place of the discharge of feces through an incontrollable fistula. Some authors have placed too much emphasis on the merits of a permanent colonic stoma in operations on the distal segments of the colon and rectum. The rectum is not an anomaly and a burden that can be replaced by a side door. The controllable mechanism furnished by nature in most instances, and under usual circumstances, performs more adequately. The truth of the matter is that when a permanent colonic stoma is actually necessary, it should be emphasized that it can be so managed as to cause the patient a minimal amount of difficulty, that he may continue to work, and that it does not shorten his life.

In surgical procedures on the colon, the effort

should be first, to effect complete removal of the disease if possible; and second, to preserve or re-establish as nearly normal rectal function as possible. In the management of lesions occurring in the more proximal segments of the colon, it is obvious that establishment of a fecal fistula or artificial anus is only a temporary affair. When, however, lesions of the lower pelvic portion of the colon (rectosigmoid) or rectum are encountered, the problem is different. I wish to direct your attention largely to the surgical management of malignant lesions of this portion of the bowel.

The first attempt at surgical treatment of rectal carcinoma was made more than one hundred years ago. At that time, removal of the rectum was not attempted. The treatment consisted of the application of some caustic or corrosive substance to, or cauterization of, the ulcerating lesion. The next step in the evolution of colonic surgery was the establishment of a permanent colonic opening when the lesion in the lower portion of the bowel became so extensive as to produce complete or nearly complete obstruction. No attempt was made to remove such lesions. As time passed, attempts at local excision were made. In some cases this was done without preliminary establishment of a colostomy, and in such instances it was found that although the sphincter apparatus of the anus had been completely sacrificed in most instances, many patients had considerable control over the sacral fistula. The Harrison Cripps operation and the Quénu-Tuttle operation are examples of this type of procedure, and I believe that today there is a place for the employment of these methods. For example, I have carried out these procedures for some anorectal lesions of a low grade of malignancy by means of the cautery, sacrificing the anal muscles and often removing three to five inches (7.6 to 13 centimeters) of bowel. Although the newly formed anus at the completion of this type of maneuver is situated deeply in the peritoneum, within a few weeks the bowel and the margin of the skin will approximate, automatically giving almost the appearance of a

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normal anus. Recently I saw two patients on whom W. J. Mayo had performed this type of operation fourteen and twenty-one years ago respectively. Rectal function was not normal, but these patients had learned, as have many others who have had this type of operation, that the anus can be controlled in a satisfactory manner. Control of this type of newly established anus is attributable first, to the formation of surrounding scar tissue; second, to a slight prolapse of the mucous membrane which gives a ball-valve effect, and last, to the fact that the patient becomes accustomed to keeping the gluteal muscles contracted when he has a sensation that the bowel is about to discharge its content. The degree of control is splendid in some cases. In other patients on whom I have performed the operation there has been no sensation or warning of impending defecation, and the establishment of a permanent abdominal colonic stoma in such cases is advisable. After its establishment the anal opening can be closed without difficulty and with very slight risk. I wish to emphasize that the Quénu-Tuttle or Harrison Cripps operation should not be employed except in those anorectal lesions which are low grade malignant processes. As a rule on my service I employ such a procedure four or five times each year.

In the majority of cases of rectal carcinoma complete extirpation of the involved segment of the colon is advisable. Occasionally if the lesion is discovered early in its course and is small and freely movable, local excision or segmental resection can be considered, provided that a specimen removed for biopsy reveals the malignant process to be of low grade. I am of the opinion that the opportunity of eradicating the malignancy may be lost completely if conservative treatment of a large percentage of those cases is attempted. In selected cases local excision or segmental resection has been performed with remarkable results. Recently I saw a patient who had consulted me four years previously because of a carcinoma of the middle portion of the rectum, which was found on removal of a specimen for biopsy to be of grade 3 activity. Radical operation was advised but was refused. Radium was employed and ten weeks later segmental resection of the rectum with end-to-end anastomosis was performed without establishment of a temporary colostomy opening. The patient, now fifty-six years of age, has no evidence of a return of the malignant process. The result in this case, however, may be looked upon as exceptional, although some other patients have had similar experiences. In any case in which segmental resection of the rectum is to be performed, the procedure should be preceded by radium therapy and, when this method of treatment has

been employed, the patient should be urged to return at frequent intervals for reëxamination. If any evidence of recurrence is found subsequently, a radical operation is carried out immediately.

Fulguration of carcinoma of the rectum has been advocated in the past five years. In my opinion this procedure is still less radical than either local excision or segmental resection. There is no doubt that burning of some malignant lesions of the rectum has brought about rather rapid local destruction of the process, but it must be kept in mind that the procedure is not radical, that it may be employed too widely and that the chances of the patient for recovery may be ruined thereby. I believe that the procedure of cauterization is most adapted to lesions in which the malignant process is of low grade and is situated on the posterior part of the rectal wall and for aged patients in whom a radical surgical operation would be most hazardous. It must be remembered that in dealing with malignant processes of the rectum or colon, surgical removal of the lesion is still the best known method of treatment.

In a follow-up study of 1,500 cases of rectal carcinoma, in which operations were performed at The Mayo Clinic, approximately 45 per cent of the patients were alive five or more years after resection. That only 45 per cent were living may seem rather discouraging at first, but some consideration should be given to the fact that many of the patients were in the seventh decade of life when the operation was performed and that nodal involvement was present in many. Furthermore, some of the deaths were from causes other than malignancy. If we assume that in the average case, the patient had an even chance of living five years following radical resection, what result could reasonably be expected from a local procedure such as fulguration? From a statistical standpoint this question is as yet unanswerable; however, it seems unreasonable to expect as good results as are obtained from radical surgical treatment. In the majority of cases the best method is extirpation of the rectal carcinoma, necessitating some type of permanent colonic stoma. As I have attempted to point out, a more conservative procedure may be feasible in an occasional case, but these cases should be selected carefully and the patients should be examined frequently after the operation.

There has been much discussion and disagreement as to the best plan of treatment for lesions of the lower portion of the colon situated at the pelvioperitoneal reflection (the rectosigmoid). The consensus at present seems to favor some procedure which necessitates the removal of the entire pelvic portion of the colon and rectum, such

as the combined abdominoperineal operation. According to my experience this procedure entails a high risk; there is an unavoidable morbidity of considerable magnitude and, whenever there is rather extreme morbidity, a high mortality must be expected. Even in carefully selected cases, the death rate will be 20 per cent or more following abdominoperineal resection. Occasionally it may be possible to perform a considerable number of such operations with only a few or no deaths and the literature is evidence of the rather widespread realization that this is the optimal time to report a series of such cases. Nevertheless the operation is one of great magnitude.

If the lesion is in the rectosigmoid, why should the segment of intestine below it, the rectum, be sacrificed, especially since as one would expect, the spread of carcinomatous cells is not downward but upward? Six years ago I began using the following method of caring for the majority of such lesions occurring among my patients. First, I establish a colostomy opening in the transverse or descending colon and then later, through a low midline incision I resect the entire pelvic portion of the colon and unite the first portion of the sigmoid to the upper end of the rectum by an end-to-end anastomosis. Suffice it to say that this procedure is as radical as the combined abdominoperineal operation and the mortality rate is less than ten per cent. The patient has the additional advantage of having normal rectal function. I have employed this type of operation in about one hundred cases.

The preoperative management in this type of case has been improved and is of great importance. The rehabilitation program consists of general measures, complete emptying of the bowel, and changing the bacterial flora by a carbohydrate diet. Thirty-six hours before operation vaccine is administered intraperitoneally to thwart the development of or to control peritonitis. Some surgeons who are particularly interested in intestinal surgery condemn procedures for preoperative rehabilitation, especially the employment of intraperitoneal vaccination. This does not require any additional care of the patient and consequently the employment of a rather large staff of especially trained nurses and physicians. It may be looked on as an added chore in the preparation of patients for operations on the intestine and I have no doubt that this does become difficult for those who are not equipped to proceed in this manner. I have employed the plan of vaccination in 2,000 cases with no ill effects. All statements issued thus far against use of vaccine do not seem to be based on substantial evidence that it is not worth-

while. I see no reason for discontinuing its use; on the contrary, I believe there is ample justification for its employment.

WHAT WE SHOULD EXPECT FROM TRANSURETHRAL PROSTATIC RESECTION*

WAYLAND K. HICKS, M.D., Sioux City

Although there are no new or startling facts to be brought out in this paper about resection of the prostate gland, it is felt that a general discussion of the procedure is worthwhile to allow us to reiterate the principles on which this type of surgery was founded. Throughout this country the present status of prostatic resection varies in direct proportion to the results obtained by its regional proponents. In certain parts of the country, it is probable that too much enthusiasm by the uninformed and too much criticism by the unyielding advocates of radical prostatectomy have misrepresented the value of this newer technic. In addition, the unfortunate stressing of results of small series performed by men new in the work creates an incorrect perspective. Therefore it is understandable, yet regrettable, that there is still so much disagreement as to the place which resection is to occupy in the future surgery of the prostate gland. Peculiarly enough, the most active criticism comes from urologists who rigidly try to limit the use of the transurethral method to certain types of enlargement, whereas, general surgeons, as a rule, are glad to get this type of case off their hands and are willing to let the urologist decide what cases he feels capable of resecting.

Resectionists, or "bladder neck architects" as titled by some skeptics, have been accused of making the procedure so appealing, so simple and innocuous to the unwary that the result has been widespread publicity and widespread attempts at duplication of the good results. Yet these critics forget that Alcock, who wrote the first comprehensive and frank paper on prostatic resection, warned beginners repeatedly of the pitfalls into which they might fall. Quoting Alcock in 1933, "Added experience gives me no reason to retract any of the statements that I made in my original report or to minimize the dangers and difficulties to which I then called attention." Much of the argument has been over which cases can be done by the resection method and which cases are best left to open prostatectomy. The simple solution to this problem is to let each man do those cases

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which his experience has taught him are within his scope, for no one knows better than the operator when he has "bitten off more than he can chew."

In the final analysis, mortality figures should be the basic test of any surgical procedure. Prostatectomy and prostatic resection mortality rates vary markedly because of the differences of opinion as to whether deaths are postoperative or otherwise; whether the series include a large or small proportion of charity patients; whether poor risks were operated upon or sent home on a catheter life, etc.; but I believe that a fair estimate of open prostatectomy would place the mortality rates at from fifteen to twenty per cent. In comparison, Orr recently completed a questionnaire on resection mortality and found that mortality decreased as experience increased, a fact which was obvious but which had never been brought out so forcibly as by his statistics. He found that five urologists, each having resected at least 500 cases, and with a total of 4,757 cases, had a mortality rate of 1.9 per cent. Twenty-five men, each with one to two hundred cases, reported a mortality rate of 4.1 per cent in a total of 3,530. In treating prostatic patients over eighty years of age the figures are just as interesting. Twinem of the Brady Foundation for Urology of the New York Hospital recently reported a mortality rate of 34 per cent in twenty-six such patients operated upon by open prostatectomy during the past sixteen years. Alcock, in his last 120 cases in patients over eighty years of age, has had a mortality of rate of 11 per cent.

One of the major points of criticism of the transurethral method has been that of hemorrhage, yet with the proper instruments and care hemorrhage should not cause too much trouble. The instrument factor has never been adequately stressed and I feel that anyone doing this work without every available aid in hemorrhage control is open to criticism. A good clot evacuator that clears the bladder rapidly of clots and allows easy localization of the bleeder is invaluable. Too frequent occurrence of hemorrhage may be the fault of the operator and a careful check of his technic should be made. It is my experience that bleeding is more prevalent in patients with markedly elevated blood pressure and in patients with highly malignant glands. In my own series there have been two patients who caused me worry from bleeding and in whom this complication caused some change in the blood picture; in fact, one of them needed a transfusion to speed up his convalescence. Neither patient, however, required open cystotomy. One was readily controlled by an indwelling Foley catheter

bag and the other required refulguration through the resectoscope. Undoubtedly, there are rare cases which require open operation and packing for control of bleeders, but thus far I have been fortunate enough to escape them. Before leaving this subject it should be recalled that hemorrhage is not a factor in resection alone for certainly hemorrhage gave us some anxious moments when radical prostatectomy was the only solution of prostatism.

Another factor which critics deem a weak point in the transurethral procedure is the frequency of "multiple" resections. In my personal practice, 80 per cent of the cases are done in a single resection, but I make no excuses for going back the second time and cutting out additional tissue. Some of these latter cases are planned two-stage resections but others are repeated because I wish to make sure there is a permanent result. This is particularly true in the younger group with large laterals in which further hyperplastic changes may take place or some of the lateral ridge work down into the posterior urethra at a later date. I readily admit that three of my patients with hyperplastic enlargements returned for further work, yet two of these were planned two-stage resections who went home on trial only and at their own request. Others will probably be back or go to some other physician because we all know that resection is not one hundred per cent perfect and that imperfect results and complications do occur. Certainly, in no field of medicine do we have an operation in which the results are always perfect. Because the permanency of resection results is questioned by many who feel that to remove the prostate gland completely is to remove all future urinary troubles, it should be remembered that approximately ten per cent of our former prostatectomy patients needed additional surgery in later years. I have resected nine patients in the last two and one-half years who had previously had two-stage prostatectomies, while several other such patients have come in for consultation because of recurring obstructive symptoms. Of these nine patients, three had incomplete removal of the gland, one had a bladder neck contracture of marked degree, one had a bladder neck contracture with a large vesical calculus, three had obstructions from hyperplastic remnants that slowly enlarged over a period of years, and one had lateral enlargement several years after a single median lobe was removed. These nine patients are ample proof that complete removal of the gland is not a guarantee of complete cure. All of these resections were done by excellent surgeons of this state whose unquestioned ability removes the factor of inexperience.

I have several times heard the statement that many of our resection patients die within a few years after their operations. Possibly this is true, and the reason is evident. These resections are performed on bad risks who do not have many years ahead of them. They would formerly have been placed on a catheter life or had a high mortality rate from open prostatectomy. Then again, the resection age average is much higher and, as shown by insurance statistics, the yearly death expectancy per one hundred males is definitely higher. In other words, any one hundred males seventy years of age will lose about six of their group within the next year. Also, if one should examine one hundred prostatic patients seventy years of age, most of them would have damaged kidneys and hearts and we should expect even a larger percentage of them to die within a year, even if their bladder necks could magically be returned to normal without an operation.

There is little difference of opinion in the treatment of cancer of the prostate gland, for in this condition it is simply a question of which treatment makes the best of a bad situation. Open removal has long been condemned, and permanent suprapubic drainage was the operation of choice before resection came into prominence. Resection of the obstructing malignant tissue is now the operation of choice for many of us. Various attempts have been made to implant radium into the gland through suprapubic or perineal exposure, but to my knowledge, results are not sufficiently encouraging for this procedure to replace resection. Radical and total removal of the prostate gland and surrounding structures has been performed in early cases by Young and Smith with improved results reported, but the procedure has not as yet been adopted to any great extent. X-ray therapy is worthwhile but only tends to slow down the rapidity of growth of the neoplasm. There is an impression that suprapubic removal of the benign prostate gland may remove a cancerous lesion or preclude later development of cancer in the remaining gland. There is ample pathologic proof, however, that cancer rarely, if ever, originates in hyperplastic tissue. It may be present by invasion, but for practical purposes its origin may be considered to be in some other part of the gland, and this is generally in the posterior portion just beneath the capsule. It is well known to all that open enucleation of the prostate gland removes only the hyperplastic tissue and that the readily followed line of cleavage, or so-called "false capsule", is really a pressed out layer of true prostatic tissue. Therefore, the usual origin of prostatic cancer is not removed by a radical prostatectomy and if cancer is found in the enu-

cleated portion of the gland, it will, in practically all cases, be present in the remaining remnant. None of my own group of patients has ever returned with cancer if the rectal examination, gross and microscopic findings were characteristic of benign prostatism. On two occasions, in my own experience, patients with suspiciously hard prostate glands which were not microscopically malignant later returned with secondary cancerous obstructions. This can happen if a non-malignant area is selected for a pathologic examination, or if the cancer has not yet invaded the obstructing lobes. Any patient with questionable hardness to the prostate gland should always be suspected of having a potential malignant condition, at least until several years have passed with no further change on rectal palpation.

The results of transurethral prostatic resection in 145 of my own patients are reviewed in the following paragraphs and charts. Chart I shows

MORTALITY RATE			
	No. Patients	Deaths	Mortality %
BENIGN	Small glands bars and contractures	24	0
	Definitely enlarged glands	101	3
CANCER	20	1	5.0
TOTAL	145	4	2.7
PRIVATE	110	3	2.7
CHARITY	35	1	2.8
OVER 80 YEARS	10	1	10.0

Chart I.

the mortality rate, which was figured on the basis that any patient who died following a resection before they left the hospital with a satisfactory bladder function, was considered to have died from the resection. No exceptions were made to this standard regardless of whether or not we thought the resection the principal cause of death. I feel sure the rate as expressed here is much lower than I can expect in the future because there is a certain element of luck in a small series of this size. For example: two scheduled resections were canceled at the last moment because of sudden adverse changes in the patients' conditions. These changes eventually caused their deaths and if they had been operated upon the mortality rate would have increased markedly. A brief resumé of the four patients who failed to survive the prostatic resection follows.

The patient, seventy-two years of age, was admitted with acute retention and marked uremia. The preoperative treatment was carried out for three weeks, and then a prostatic resection was performed with 18.0 grams of hyperplastic tissue being removed. The convalescence was uneventful until the ninth postoperative day when the patient suddenly dropped dead in the corridor of the hospital. He was to have been sent home that day. The cause of death was undoubtedly a mural thrombus.

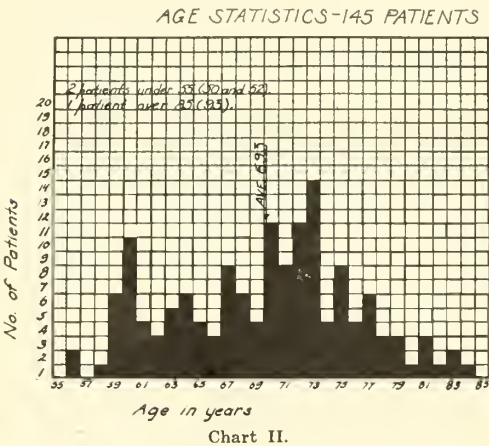
The patient was a bedfast, arthritic individual, seventy-three years of age, who was admitted with acute retention, severe prostatic hemorrhage and chronic uremia. He was resected in two stages and a total of 42.0 grams of hyperplastic tissue was removed, principally from the lateral lobes which were three to four times the normal size. He emptied the bladder satisfactorily after the resection, but died on the fifteenth postoperative day from progressive uremia and myocarditis.

The patient, seventy-five years of age, was admitted with acute retention. A large, extensive, and hard prostate gland was found on rectal palpation. He was resected after several days of

suddenly developed with struggling and yelling. Death followed two days later from myocarditis, pneumonia and senile psychosis.

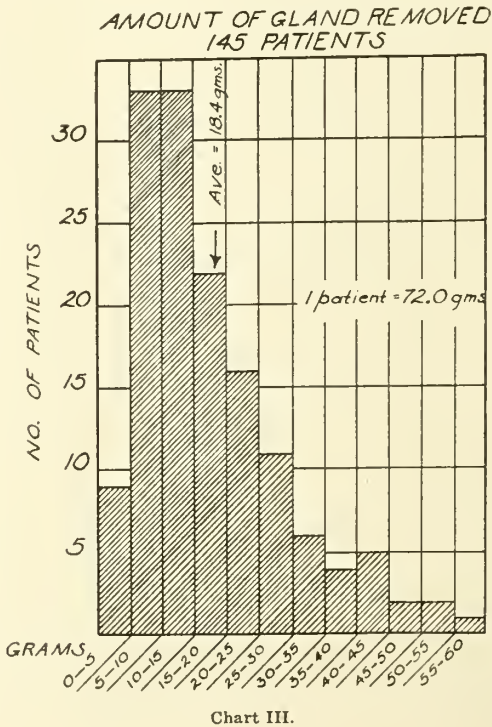
Chart II shows the ages of the whole group, the average being 69.3 years. These patients averaged approximately seventeen days of hospitalization time. As an indication of the degree of obstruction present in these patients, it was interesting to find that 81 per cent gave a history of having had acute retention at some time or other from their prostatic enlargement. Chart III is the most enlightening of all to those doing this work because it shows the amount of glandular tissue removed. If the average is too low, a higher percentage of recurrences may be expected. This average, however, compares favorably with the weight average of the larger series reported in the literature and I am optimistic enough to think the recurrences will be of a minimal number.

There have been no complications or accidents of serious import in this group, other than those previously mentioned under hemorrhage and deaths. No sphincters have been cut, bladders ruptured or false passages made. There have been no abscesses or urinary extravasations about the bladder, rectum or urethra, although these may rarely occur in spite of every precaution. (Since this series of patients was completed, I have had one patient who developed a peri-urethral abscess at the site of a stricture which was dilated before the resection.) To my knowledge, there have been



preoperative care and 25.0 grams of cancerous tissue were removed. The postresection course was stormy and the patient died on the fifteenth postoperative day. Death was undoubtedly due to sepsis from the operative site.

The patient, ninety-three years of age, was admitted in acute retention with a two plus cloudy urine and a very irritable bladder and posterior urethra. There was marked senile disorientation. Catheterization was extremely irritating. A trans-urethral resection was performed and 18.0 grams of hyperplastic tissue were removed. The patient recovered well up to the eighth day, at which time he was emptying the bladder and sitting up in a chair. On this day, however, a senile psychosis



no complications or sequelae following the low spinal anesthesia which was used in each instance. Some cases of epididymitis have occurred and one patient with an inflammatory hydrocele needed drainage through the scrotum, but these complications will probably always be with us despite pre-operative vasoligation.

As a summary to this general discussion and in answer to the title, the following points are worthy of reiteration:

1. We should expect the mortality rate to be decreased.
2. We should expect the resulting bladder function to be as good and as permanent as that which follows open prostatectomy.
3. We should expect shorter hospitalization.
4. We should expect to be able to offer this procedure to older patients and poorer risks without a prohibitive death rate.
5. We should expect to give maximum relief to cancer patients without the necessity of a permanent suprapubic drain.

In the review of 145 patients, I feel that the above factors have been accomplished to such a degree that prostatic resection is the operation of choice for my patients. This statement is not meant to criticize open prostatectomy because it is a successful operation, and in some cases, the only operation indicated. In a final summation, my impression is that the medical literature on resection of the prostate gland has been both too skeptical and too enthusiastic. It seems reasonable, however, to believe that the principle is sound and the results obtained will be dependent on the personal adaptability of each operator. All the volumes written on this subject, pro and con, prove nothing more than this.

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Discussion

Dr. Homer W. Scott, Fort Dodge: The recent journals are full of papers on the subject of prostatism. It is hard to sift out the chaff and pick out the wheat, yet I believe that Dr. Hicks has given us a clear, concise, conservative summary of the attitude of the present day urologists to transurethral prostatic resection. I think most of us expect too much from this procedure. Some years ago we did not seem to feel so bad if an old gentleman who had a prostatectomy surgically performed, did not survive it. Perhaps I should not say that we did not feel bad, but it did not create such a disturbance as it seems to now if a patient does not survive a transurethral prostatic resection. Therefore, I think we expect too much from transurethral resection. It has been placed in our hands as a cystoscopic procedure by some. I know of one who says that it is a minor procedure. It may be a minor procedure technically, but it is a major procedure as far as the patient is concerned, which leads me to the second point I wanted to mention; that is, the most vital factor in transurethral prostatic resection is that of experience. I believe that experience is needed more in the performance of transurethral prostatic resection than in almost any other surgical procedure. As one gains in experience, one gains in skill, dexterity and rapidity of procedure. More tissue can be removed. The possibility of multiple resections can gradually be eliminated. I believe every man who began doing transurethral resections found that at first he had a hard time getting more than a few grams, and he was horribly discouraged because he did not think he had removed nearly enough of the obstruction. Later, that same man with the same type of case, could remove 30 or 40 or possibly 50 grams. A third point is the amount of tissue removed. We may have a fair sized or small gland to remove and after eight or ten or twelve grams have been removed, we feel that the obstruction is quite satisfactorily removed. The patient then may, to all practical purposes, have a good functional result. However, unless the obstruction has been adequately removed the patient may return in a year or so for further work.

The fourth and last point is in reference to surgical prostatectomy. The first experience I had at prostatectomy was surgically. I know I can do a surgical prostatectomy much easier than I can do a transurethral resection, but I also know, to my own satisfaction, that the patient can stand the transurethral resection much better than he can the surgical prostatectomy. However, we are all agreed that the patient's interests stand first and for this reason I favor transurethral resection, with one exception, and that is when a very large gland is involved; say one in which 100 or 150 grams will have to be removed. My personal belief in a case of this nature is that the patient should be a candidate for surgical prostatectomy.

Dr. Wendell L. Downing, Le Mars: Mr. Chairman, first I want to congratulate Dr. Hicks on his excellent paper and his fine results in 145 cases of resection.

The ultimate results of suprapubic prostatectomy have been, in general, quite satisfactory, yet all urologists and general surgeons feel that this procedure is unsurgical in nature and wish for some better method of handling the prospective patient. Transurethral resection, where applicable, has several indisputable advantages. First, it lessens the mortality rate; second, it lowers the morbidity; third, it saves time and money for the patient; fourth, quoting Bumpus, "It has encouraged men to seek relief early who formerly suffered the tortures of an obstructed urinary stream for many years, with its complications of infection and renal insufficiency."

Three factors have made resection popular. First, the patients recognize the highly successful method, with no open operation, and short hospitalization; second, instrument manufacturers have pushed their product; and third, physicians have long awaited improved methods. As a result, many physicians whose previous cystoscopic experience would not justify the investment or the use of so technical a method, have purchased instruments. Over 2,500 Stern-McCarthy resectoscopes and several hundred other instruments have been manufactured and sold. Few physicians, other than urologists, have had sufficient training in endoscopy even to recognize the various types of prostatic deformities encountered, let alone attempt their removal.

The prostatic urethra, while small in dimension, is rich in blood supply. When large vessels are opened, bleeding is rapid, and one is soon, as Bumpus has said, looking through rose-colored glasses. The external sphincter lies directly at the apex of the prostate gland and its partial excision with the cutting electrode is most easy. Urinary extravasations, rapidly developing peritonitis, fatal hemorrhage, and urinary incontinence are certain results of technical error. Indiscriminate coagulation is dangerous, and irreparable damage is easily done. Too much trauma to the urethra results in an incurable stricture and obstruction in place of a removable one. As Dr. Hicks has said, Orr has shown that the mortality rate bears a direct relationship to the experience of the operator. The mortality rate of the general surgeon or casual urologist doing transurethral resections probably will never be known. The greatest limitation, then, of transurethral resection is the experience of the operator. My own experience with suprapubic prostatectomy has been quite satisfactory and an occasional large gland is still being removed by that method. However, I welcome the opportunity to refer prostatic patients to well trained resectionists. My personal experience with transurethral resection, while brief and now a closed chapter, was instructive. After twelve years' experience with cystoscopy as a side line to general surgery, a careful review of the literature and a week spent in watching resections done, I cautiously began resecting small glands. Eleven resections were done on ten patients. One died of hemorrhage that required suprapubic packing; a second from pulmonary embolism; and several had only partial relief of the obstruction.

In conclusion, my own convictions are that transurethral resection is a highly technical procedure; that it requires extensive training in endoscopy; and that such training is difficult to obtain. After the technic is mastered, a sufficient volume of cases is necessary to keep the surgeon experienced and to justify a well trained staff of assistants. Therefore, resection therapy should be done only by those devoting full time to urology.

THE TREATMENT OF TRACHOMA*

JAMES H. ALLEN, M.D., Iowa City†

MacCallan's¹ classification of trachoma into stages offers a convenient division of cases for the consideration of therapeutic indications. Perhaps it would not be amiss to outline the important features of these various clinical divisions.

Stage I designates incipient trachoma which is characterized by the presence of immature follicles or grayish-white, round, relatively avascular lesions on the upper tarsal conjunctiva, associated with infiltration and papillary hypertrophy in the fornices. Pseudoptosis is generally absent.

Stage IIa, or follicular trachoma, signifies established pure trachoma. In this stage mature, easily expressed follicles are present over the entire palpebral conjunctiva, but are most prominent on the upper tarsal conjunctiva and fornix. Papillary hypertrophy is present but inconspicuous. Vessel and meibomian gland markings are obscured by subconjunctival infiltration. Pseudoptosis is always present and there is generally a yellow sticky secretion.

Stage IIb, or papillary trachoma, usually designates an acute trachoma with superimposed bacterial infection, but may occasionally designate a pure trachoma of high activity. In this group papillary hypertrophy is predominant, overshadowing the small number of follicles or the buried follicles which are present. The conjunctiva is markedly thickened and generally bathed in an abundant purulent secretion. Pseudoptosis, or more frequently blepharospasm, is present.

Stage III, or cicatrizing trachoma, is characterized by scars with interposed areas of papillary hypertrophy or follicles. It is with the onset of this stage that the sequelae of trachoma usually begin to appear, e. g., trichiasis, entropion, and symblepharon. Corneal ulceration may complicate one of the earlier stages but is most frequent in this stage.

Stage IV, or healed trachoma, designates the end result of this infection and varies widely in

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†From the Department of Ophthalmology, College of Medicine, State University of Iowa.

appearance. The conjunctiva may be pale, smooth, and scarred, with only slight diminution in depth of the fornices, or the lids may be greatly distorted from the contraction of dense scars.

Pannus is not included in the differentiation of the stages of trachoma. The gross or biomicroscopic changes of pannus are always present, but only in the incipient stage when both corneal and palpebral pathology are minimal is there any correlation. Therefore Thygeson² has proposed a separate classification to designate the extent of pannus. First degree pannus, then, represents a minimal invasion of the cornea by the conjunctival vessels, and second degree pannus signifies that the vessels have reached a point in the cornea opposite the midpoint of the iris, i. e., about half-way between the limbus and the pupillary margin. Third degree pannus is one in which the vessels have invaded the cornea to a point opposite the pupillary border of the iris, and fourth degree pannus represents complete superficial vascularization of the cornea. Pannus of any extent may be either active or quiescent; therefore activity should be mentioned as well as degree.

At present no specific therapeutic agent has been discovered for trachoma. This perhaps is due largely to the fact that the etiology of the disease has been a matter of dispute, but with Thygeson's³ demonstration of the rôle of the Halberstaedter-Prowazek elementary bodies in the production of the disease confirmed by Bengston,⁴ it is to be hoped that more specific methods of treatment may be developed in the near future. However, since the present methods of treatment are empirical, wide variations in both medical and surgical therapy are in vogue. Many of these methods have been found to be successful, but since time does not permit a complete discussion, only those which have been of value in the Eye Clinic of the University Hospital will be discussed.

MEDICAL THERAPY

Local anesthesia: Because of the nature of the drugs used, local anesthesia is not only desirable but necessary. One-half of one per cent pontocaine, two per cent butyn, or one per cent holocaine solutions may be used. One drop of the aqueous solution is instilled into the conjunctival sac and repeated two or three times at one minute intervals. Cocaine solutions are not employed for treatment because of their tendency to roughen the corneal epithelium.

Copper sulphate stick: The upper lid is turned by means of a double everter, in order to expose the upper fornix, and the point of the copper sulphate stick is passed firmly and rapidly over the exposed conjunctival surface. Caution is exercised to avoid undue pressure, and extreme care

is exerted in preventing the copper stick from touching the cornea. If the stick comes into contact with the cornea, a burn and ulceration result. As soon as the application is completed, the conjunctiva is irrigated with saline or boric acid solution to remove any excess or free copper sulphate that may remain. This is important in the prevention of conjunctival as well as corneal burns. The lower lid is then everted in the usual manner and the copper sulphate stick applied to the conjunctiva of the lid and caruncle and rapidly followed by irrigation.

Silver nitrate: A two per cent, aqueous solution of silver nitrate is applied to the anesthetized everted lids. In this case the solution is applied by means of cotton applicators from which excess solution has been removed before application to the conjunctiva. As in the copper sulphate stick treatment, painting of the lids is rapidly followed by irrigation with salt or boric acid solution to remove any excess silver nitrate solution. Here also contact between the drug and the cornea must be avoided.

Zinc peroxide: Zinc peroxide powder is applied to the conjunctiva of the anesthetized everted lids and the lids allowed to return to their normal position with the powder remaining on them. A dressing is applied and the lids are kept closed for thirty minutes. At the end of that time the powder is removed by irrigation. The powder is often difficult to remove and applicators are frequently used to remove small accumulations from the fornices.

Copper solutions: The above methods of treatment require a physician or a trained assistant because of the hazards incurred in their use, and thus generally preclude the possibility of prolonged daily treatment. Therefore supplemental methods of treatment are desirable. One that has been found to be of some value is the use of copper solutions. Following the instillation of drops of one of the anesthetic solutions, one drop of either a one-half of one per cent aqueous solution of copper sulphate, or a one per cent solution of copper sulphate in glycerin, is instilled into the conjunctival sac. The patient can carry out the procedure with either solution at home.

Indications: Copper sulphate stick is particularly valuable in Stages I, IIa, and III. It should be used daily during the earlier stages or until the lesions begin to show satisfactory signs of regression. Even then it is useful at varying intervals until complete healing has been effected. Silver nitrate on the other hand is more limited in its usefulness, being of most value in the treatment of bacterial conjunctivitis complicating trachoma. Therefore, it is particularly indicated in Stage IIb. However, in any case it should be used with

caution. The two per cent aqueous solution should not be allowed to come into contact with the cornea for fear of causing a burn and ulcer. Its prolonged use on the conjunctiva may result in the production of an acute papillary hypertrophy or more rarely may result in permanent staining of the conjunctiva. Therefore, since most secondary bacterial infections usually respond to daily paintings in from three to seven days, it is perhaps better to substitute some other form of treatment for the trachoma after a week with silver nitrate. Other silver preparations have been advocated for use in trachoma because they are less irritating or non-irritating, but that should be the very reason for their rejection. Such drugs are often used by patients long after the physician thinks they have been stopped, thus not infrequently resulting in argyrosis of the conjunctiva. Zinc peroxide powder seems to have little effect upon the lid pathology of trachoma but is quite useful for corneal pathology. In rapidly advancing pannus, daily treatments with zinc peroxide powder may be used; or they may be employed every other day using either copper sulphate stick or silver nitrate applications on the alternate days. As has been mentioned above, the copper solutions are used either at home or as supplemental therapy to one of the more severe forms of treatment. One drop of either solution may be instilled once to three times a day, following a drop or two of an anesthetic solution. The aqueous solution of copper sulphate seems to be tolerated better than the glycerin solution as a general rule.

SURGICAL THERAPY

Numerous surgical procedures have been advocated at various times in the past for treatment of the active stages of trachoma. Many of these procedures were radical and probably contributed to, rather than detracted from, the cicatricial complications of the disease. Naturally these procedures were soon discarded, and at the present time the tendency is to employ surgery as little as possible in the treatment of the disease. Expression, peritomy and cauterization of the limbic vessels, however, are procedures which have been retained because of their usefulness. All of these may be carried out under local anesthesia, by supplementing that obtained by conjunctival instillations with infiltration or regional nerve block injections of novocain.

Expression: A small amount of conjunctiva of the anesthetized and everted lid is squeezed carefully but firmly between the blades of a pair of ring forceps or a pair of Knapp's roller forceps. The conjunctiva of both lids and the caruncle are systematically treated in this way. Caution is observed to exert only enough pressure to express

the mature follicles, and not to cause undue trauma to the conjunctiva or underlying tissue. The surgeon and assistants should have their own eyes protected by goggles or glasses. Following this treatment, the patient is made to use continuous ice compresses for twelve to twenty-four hours.

Peritomy: The conjunctiva is incised at the limbus, as close to the cornea as possible, after which the corneal side of the wound is scarified with a small curette to interrupt those vessels that were not sectioned by the incision. The eye is dressed for twenty-four hours with an antiseptic and mydriatic ointment. It is perhaps unwise to extend this procedure much beyond one-half the circumference of the cornea at any one time, but if necessary the remainder may be treated in a similar manner after a few days.

Cauterization of the limbic vessels: In cases in which only a few vessels need obliteration, this may be accomplished by touching the individual vessels with the fine point of an electrocautery or an electrocoagulation needle.

Indications: Expression gives the best results in an acute pure or follicular trachoma (Stage IIa) but at times may be helpful in an early cicatrizing trachoma (Stage III) in which there is a large number of mature follicles. Incipient or Stage I trachoma does not require expression and in Stage IIb it is contraindicated because of the secondary bacterial infection and the scarcity of follicles. Interruption of the conjunctival vessels at the limbus is contraindicated during a stage of great activity. However, as the activity diminishes, peritomy or cauterization of the vessels at the limbus may be beneficial in limiting further advance of the pannus and hastening its resolution. However, complete resolution is never to be expected. Frequently peritomy or cauterization of pannus vessels is of benefit in the treatment of a chronic corneal ulcer. Surgical procedures for the sequelae of trachoma are problems in plastic surgery and with the exception of perhaps electrolysis for trichiasis enter little into the treatment of the disease itself. Therefore, they may be dismissed by the statement that the correction of entropion ranks second in frequency only to the control of trichiasis.

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Discussion

Dr. H. C. Kluever, Fort Dodge: Dr. Allen has given a practical and concise discussion of the treatment of

active trachoma as it is carried on at the University Hospital at Iowa City. This treatment must be continued over a long period of time during the stage of cicatrization to prevent relapse, and it is often difficult to get the patient to continue the treatment sufficiently long. One-half of one per cent copper sulphate ointment or, five or ten per cent copper citrate ointment is sometimes more easily tolerated during this period. Prophylactic treatment is of great importance. The dangerous element is the secretion from the eyes of infected individuals; thus proper cleanliness is essential. When the disease is once established vigorous isolation should be practiced.

Since trachoma is an infectious and communicable disease, it is reportable, but the reporting to the State Department of Health is incomplete and misleading. Two cases were reported in 1930, none in 1931, four in 1932, none in 1933, one in 1934, none in 1935, and seventeen in 1936. Most of the cases reported in 1936 were notified from the University Hospital at Iowa City, and most of the cases seen at Iowa City were of long standing. Consequently one must assume that the disease is not being reported throughout the state, and probably it is considerably more prevalent in Iowa than would be judged from reports. The importance of reporting trachoma can readily be appreciated when it is remembered that the prevention of spread of this disease cannot be properly carried on without statistical records. At the present time we have only a hazy conception of the actual prevalence and geographic distribution of the disease throughout the state. We know very little regarding its frequency of occurrence in various age and occupational groups of our population. It is believed that the incidence of trachoma in Iowa is on the increase, but actual proof is wanting. The necessity of more careful reporting of trachoma is therefore obvious.

Dr. Henry G. Langworthy, Dubuque: During these days of research and experiment, each adding some knowledge and yet not quite conclusive, we must still cling to and be guided by our old time tested treatment which on the average has yielded quite good success. The one outstanding feature reiterated here is persistence of treatment and observation over years. There are no short cuts. I like the comparison somewhat to taking charge of a case of syphilis. In that disease we would not think of dismissing a case as cured just the minute a few active symptoms disappear. Being a good ophthalmologist is not enough in handling trachoma. The eye specialist must be three things more; he must be a sanitary administrator, social service worker and last, but not least, a real humanitarian. The patient must be looked on as something more than one who may lose his sight if he is not given almost continual attention. He should be looked upon in the old fashioned way that he or she is an individual of possible great value to the state. Patients with trachoma are usually grateful ones, and the foregoing attitude, a true one, makes treatment seem much more worthwhile and pleasant.

BARBITURATE THERAPY AND CATARACT SURGERY IN PARKINSONISM

MARVIN J. BLAESS, M.D., Marshalltown

The subject of barbiturate therapy in parkinsonism has not yet been brought to a final and satisfactory conclusion in the minds of all physicians who have to deal with this disease. Possibly the extensive, varied and disabling character of the symptomatology precludes the adequate control of the patient by a single therapeutic organic compound. It seems much more likely that a combination¹ or alternation of different drugs might best control the disturbing symptoms. It is also recognized that in some patients one drug is more effective than others.² Recently there appeared another paper³ purporting to show that phenobarbital is contraindicated in every case of postencephalitic parkinsonism. This report comprised no vast variety of cases from which valuable and reliable conclusions which would be of practical and clinical use could be drawn, but merely certain limited observations and subjective findings in the treatment of five cases of parkinsonism. That phenobarbital, and probably other barbiturates as well, are always contraindicated in parkinsonism is too dogmatic a conclusion, and one which might lead to the unfortunate omission of an excellent therapeutic agent under certain circumstances. Special and modifying conditions requiring surgical treatment associated with parkinsonism in which the barbiturates give excellent therapeutic results must be considered before such incontrovertible conclusions can be reached.

The author was recently confronted with the problem of controlling the rigidity and a very marked and disturbing tremor in a patient suffering from parkinsonism so that cataract operations could be performed on her eyes. Scopolamine hydrobromide, atropine sulphate,⁴ morphine sulphate, sodium amytal, and benzedrine sulphate⁵ were tried independently and successively in the order named in an effort to find the drug which would best control the disturbing symptoms of rigidity, tremor and insomnia and permit the necessary cataract surgery to be performed. Of these five drugs sodium amytal was not only the best, but was the only drug which completely obviated the insomnia, reduced the tremor to a negligible movement, and permitted sufficient relaxation of the muscular rigidity to permit successful cataract removal.

CASE REPORT

Mrs. C. B., a white widow, sixty-seven years of age, appeared April 23, 1937, complaining of blind-

ness in both eyes for the past three years and intermittent pain in the right eye for the past two years. There was a history of influenza fifteen years previously, and an increasing tremor of the left hand and arm and of the tongue and jaw for the past ten to fifteen years. During this interval the lethargy, muscular weakness, festination of gait and flexion posture had gradually increased to such an extent that the patient could now walk only with the active help of two adults, one on each side. She complained of chronic insomnia and attributed her "nervous weakness" to lack of sleep. In childhood she had suffered measles, mumps, and whooping cough. On physical examination the patient also exhibited the characteristic slurring of speech, expressionless stare, and muscular rigidity of parkinsonism. There were no mental aberrations. Both eyes had well advanced nucleocortical cataracts. Her best right vision was hand movements at one foot and left vision finger counting at one foot. She could recognize intense red and blue with either eye. There was central fixation and good light perception and projection in all quadrants of the visual field with each eye. The corneae in the areas corresponding to the palpebral fissures showed a typical desiccative keratitis due to the infrequent winking of the eyes. There was an active keratoconjunctivitis with some mucopurulent discharge and a marked loss of convergence.

The patient was admitted to the Evangelical Deaconess Hospital, Marshalltown, Iowa, April 23, 1937, with a temperature of 99 degrees; pulse, 88; respiratory rate, 20; and blood pressure, 140/68. The physical examination revealed no other pertinent defects. A twenty-four hour specimen urinalysis revealed only a slight trace of albumin. The Kahn test was negative. On April 24 the patient was given scopolamine hydrobromide, gr. 1/150, hypodermically at 9:00 a. m. and at 9:00 p. m. At 11:00 a. m. and at 2:00 p. m. the patient was observed up and groping about the room because of her inability to sleep. On the following day the scopolamine was increased to 1/120 gr. at 9:00 a. m. and at 9:00 p. m. She was awake and restless twice on the night of April 24 but did not get up out of bed. On the following morning she complained of some very vivid and distressing hallucinations. Both the muscular rigidity and the tremor were lessened by the scopolamine therapy.

On April 26 the scopolamine was discontinued and atropine sulphate, gr. 1/150, was given hypodermically at twelve hour intervals. She complained of dryness of the throat and there was a noticeable flushing of the face after each administration. At night she remained awake and rest-

less from 1:00 a. m. to 5:00 a. m. but did not get out of bed. On the morning of April 27 the tremor and rigidity had returned to their original intensity. The atropine was discontinued and scopolamine resumed. At 9:00 p. m. on April 28 the patient was given morphine sulphate, gr. 1/6, hypodermically in place of scopolamine. She was awake and restless until 11:00 p. m. and later suffered a gastro-intestinal upset with nausea and vomiting. On the following morning she was still nauseated but had rested fairly well. Beginning April 29 the patient was given sodium amytal, gr. 3, at twelve hour intervals. She was awake only once but quiet all during the following night. On April 30 the tremor and rigidity were improved and the patient found walking much easier.

On May 1, the patient was given sodium amytal, 3 gr., at 6:30 a. m. and again at 7:30 a. m. for preoperative sedation. At 8:30 a. m. she was very drowsy and would fall asleep unless repeatedly aroused. At that time I removed the left cataract under local anesthesia using a combined modified Barraquer intracapsular technic.⁶ The patient slept throughout most of the operation and was awake only for a few very short intervals. There was adequate muscular relaxation and no tremor was present during the entire operation. During an uneventful convalescence the patient was given sodium amytal, gr. 3, and acetylsalicylate acid, gr. 10, at six to eight hour intervals for two days and then at twelve hour intervals thereafter. On May 6 the patient was permitted to sit up in a chair and on May 8 she was permitted to walk. There was a notable abatement of both tremor and muscular rigidity along with total relief of the insomnia. On May 14 I performed a modified Barraquer intracapsular cataract extraction on the right eye following the same therapeutic regime. As with the left eye, recovery was again smooth, rapid and uneventful. On May 26 the sodium amytal was discontinued and on May 27 benzedrine sulphate was given orally in 1/6 gr. doses three times daily for ten days. Under this medication the tremor became slightly more accentuated but never reached its original severity. Marked insomnia did not return but the patient did not enjoy the quiet unbroken sleep she had while receiving the sodium amytal.

On June 5, 1937, she was discharged from the hospital with normal corrected vision in each eye. Since her discharge she has been taking benzedrine sulphate, gr. 1/12, twice daily and phenobarbital, gr. 1½, once daily. On June 24 her daughter reported that her arm was steady, that she was sleeping well, and that the muscular "stiffness" had not changed much since her dismissal from the hospital.

DISCUSSION

It should be noted that the patient was seeking relief from blindness and that control of the rigidity and tremor was sought merely so that the necessary cataract surgery could be safely performed. The patient stated that previous treatment of her nervous disorder had been so disappointing and so ineffective that she had become resigned to the impossibility of obtaining relief from that condition. Treatment of the neurologic condition was undertaken specifically in order to make it possible to remove the cataracts.

Scopolamine hydrobromide brought moderate subjective and objective improvement particularly in regard to the muscular rigidity but had very little effect upon the tremor and insomnia. An attempt to enhance its benefits by increasing the dosage resulted in marked hallucinatory reactions. Atropine sulphate in doses which caused mild dryness of the tongue and slight flushing of the face gave no symptomatic relief whatever. Morphine sulphate in moderate dosage produced a violent gastric upset with nausea and emesis. Sodium amytal in three grain doses almost completely eliminated the tremor, provided definite relaxation of the excessive muscular rigidity and brought complete relief from insomnia by producing prolonged calm and quiet sleep. So striking was the relief from her symptoms by sodium amytal that the patient herself expressed a desire to continue its use and complained bitterly when it was withdrawn and as her symptoms returned. Benzedrine sulphate in recommended dosage³ gave some relief from the rigidity and tremor but did not relieve the insomnia.

Of course it is not logical to attempt to conclude from a single case that barbiturates are the ideal drug in every case of parkinsonism but I wish to point out that when surgery is necessary in cases of parkinsonism one should not hesitate to give a trial dose and to use the barbiturates if the patient's reactions prove satisfactory. One should maintain an open mind and avoid therapeutic dogmatism and broad generalizations regarding contraindications based upon small series of cases. Perhaps it is true that the barbiturates are contraindicated in some types or in a certain number of patients suffering from parkinsonism, but it appears certain from this observation that they are not definitely contraindicated in every case and under all circumstances especially if they are given in combination with benzedrine sulphate. On the contrary, it is not improbable that there are other cases of parkinsonism in which this type of therapy gives far better results than the old time-worn scopolamine, atropine and stramonium. The con-

flicting therapeutic results obtained by different physicians by the use of the same drug also indicates the need for an accurate, intensive and comparative study of the effects of various drugs in a large enough number of cases of parkinsonism that reliable, unbiased and useful conclusions can be reached. Until such information is available it seems best to avoid too much generalization and to try out the various drugs in each case of parkinsonism requiring surgery, selecting that one or combination which appears to bring the most symptomatic relief. This procedure is especially recommended to ophthalmic surgeons in the management of cases of parkinsonism and cataract where proper and positive preoperative and postoperative sedation spells the success or failure of their efforts. It is hoped that this report will help to dispel any misapprehensions derived from reports based upon brief subjective studies; and upon inadequate information regarding preoperative and postoperative barbiturate medication which might deter the surgeon in his search for the most efficient drug to use in cases of parkinsonism requiring surgical treatment.

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THE RELATION OF GALLBLADDER DISEASE TO CERTAIN HEART CONDITIONS*

JOHN W. THORNTON, M.D., Lansing

Gallbladder disease is the most common organic disease of the upper abdomen and one of the most common ills of adult life. Heart disease likewise holds high rank as a cause of illness and first rank as a cause of death. This position is based largely on the increasing prevalence of the so-called degenerative types of heart disease characterized by changes in the myocardium and coronary vessels. These conditions, like gallbladder disease, are found in middle life or later. Frequency and age incidence alone might account for many relations between the two groups, but for years clinicians have held the idea that the relationship was more than accidental; especially do they feel that gallbladder disease may be a fac-

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tor in the development or at least the aggravation of many heart disorders. Added reason for considering the two groups together is found in the occasional similarity of their symptoms, leading to difficulties in diagnosis and treatment, a problem rendered more complicated by the fact that frequently both conditions are present.

Whether cardiac symptoms and disorders occurring in association with gallbladder disease are directly due to the latter has been the subject of much study. The bradycardia of simple jaundice suggests that the heart can be influenced by biliary tract disease. There are numerous reports of transitory arrhythmias, murmurs or other cardiac symptoms occurring during an attack of biliary colic. In 900 cases of gallbladder disease Rehfuess found 39.6 per cent with symptoms varying from palpitation, tachycardia and precordial distress to marked anginal pain; in about ten per cent the symptoms were so suggestive of angina pectoris that diagnosis was difficult. Some of the most convincing evidence of relationship has come from improvement in disturbed heart function seen at times after gallbladder surgery; many such cases have been reported by Willius, Mayo, Robey, Strauss and Hamburger, and even years ago by Babcock and others. Several series of cases have been studied to determine if the association is other than accidental. Leach reports 116 cases of surgically proved gallbladder disease with 25 per cent showing heart disease, but concludes there is no definite relationship other than might be accounted for by age, associated obesity and other accidental factors. In a series of 109 cases from a medical service Schwartz and Herman report a higher incidence of heart disease, 63 per cent as compared with 41 per cent in a similar age group without gallbladder disease. They found obesity in 52 per cent of the gallbladder cases and in 56 per cent of the heart cases, with 68 per cent of the obese patients with gallbladder disease showing heart disease. They found a greater probability of heart disorders with gallbladder disease during the fourth to sixth decades in obese individuals, while after that almost all cases showed heart disease of the hypertensive or arteriosclerotic type, as might be expected in that age group. In the effect on the heart they found little difference between clinically severe and mild cholecystitis, probably because the longer duration of the latter is more likely to offer a chance for slow and insidious damage. These workers consider gallbladder infection and obesity equally responsible for harm to the heart. Willius and Fitzpatrick report an incidence of heart disease in 39 per cent of a series of 596 gallbladder cases and of these over 75 per cent were of the de-

generative type with obesity present in 45 per cent of the heart cases. Their conclusion seems reasonable and fair; that the etiologic relationship of gallbladder disease to disease of the cardiovascular system is not proved but that gallbladder disease exerts a detrimental effect on cardiovascular disease as shown by distinct improvement in more than half of the patients upon whom operations were performed.

The question as to why some hearts are drawn into the gallbladder picture and others are not, is not fully answered. Perhaps a sound heart can stand the effect of infection and reflex vagal stimulation and quickly recover, while another may be more seriously affected, especially since gallbladder disease occurs chiefly in middle age when hyperthyroidism, valvular disease, arteriosclerosis and obesity are most frequent and have already impaired the heart. The influence of the gallbladder is attributed to the fact that it is a chronic focus of infection, acting on the myocardium and coronary vessels, and like other focal infections it may favor the progress of disease even if it is not the immediate cause of it.

Another explanation given for possible influence on the heart is that the presence of bile salts or pigments in the blood may have a toxic action on the heart muscle as well as on other organs. Chemical toxins may be absorbed, the result of the digestive disorders of biliary disease. Mechanically the heart may be embarrassed by pressure of the flatulent stomach and to some extent associated liver congestion may increase heart work and strain.

In addition to the infectious, toxic and mechanical influences certain features of these diseases are best explained by the closely related innervation of the two organs. Among these are the reflex inhibition of the heart in biliary colic, and the location and reference of pain, typical or anomalous, in both gallbladder and cardiac disease. In both organs the nerve supply is derived largely from the vagus and the sympathetic systems and connected centrally with closely adjoining segments of the cord, upper thoracic segments for the heart and lower segments for the gallbladder. In both cardiac and gallbladder disease symptoms are often typical and the picture so classical that there is little diagnostic difficulty. Again variations occur and the clinical picture is so bizarre that the best skill and effort is required to reach correct conclusions. Difficulties center largely around the problem of determining the real source of pain, often atypical in character or location, or the problem of properly evaluating symptoms when both conditions are present. An obscure myocardial or coronary disease with upper ab-

dominal pain may masquerade as an abdominal emergency; or, since we have become so familiar with coronary occlusion, it is just as likely that this diagnosis will be made in an indefinite gallbladder case with symptoms largely or entirely thoracic. So great is the latter danger that Barker, Wilson and Collier give the warning that "Unless symptoms and signs are unequivocal the diagnosis of angina pectoris or coronary occlusion should not be made until upper abdominal disease has been excluded."

The full story of gallbladder symptomatology is too extensive to cover here. When not entirely silent, the diseased gallbladder may present local, reflex and general symptoms in many variations. There is usually pain or discomfort in the epigastrium or gallbladder region accompanied by digestive disturbances, such as selective food intolerance, flatulence, belching, nausea and vomiting. To these may be added the more spectacular element of biliary colic with its intense pain in the right side or epigastrium, usually radiating along the right costal margin to the back near the scapula or directly through to the back between the shoulder blades, less often into the chest or lower abdomen. Many times this pain is accompanied by nausea and vomiting, which may terminate the attack. Again the picture may be varied by the presence of chills, fever or jaundice, giving some information as to the pathology present. Cardiovascular disease likewise shows almost endless variations. The first symptoms of coronary sclerosis, where it develops slowly and allows the collateral circulation to become active, may be those of impaired myocardial function with gradually developing dyspnea, weakness, certain arrhythmias and later the signs of congestive failure. Even in the heart of this type the possible influence of a latent gallbladder infection is to be considered, for in the earlier stages surgery may be followed by great improvement of the heart. More important from the diagnostic standpoint are angina pectoris and coronary occlusion, two closely related conditions, which have as their dominant symptom pain, often of a type to be confused with the pain of gallbladder disease.

There are varied concepts of angina pectoris and since its original description by Heberden in 1768 there has been much discussion of the real nature of the attacks of substernal pain with radiation to one or both arms, accompanied by a feeling of constriction of the chest and often a sense of impending death. The diagnosis of angina pectoris does not require this classical picture, for many of the milder cases show only a sensation of pressure or constriction of the chest in response to effort or intense emotion. Angina

pectoris is not to be considered a definite disease nor even a symptom due to any single cause; it is rather a painful manifestation of varied pathology and is usually based on an inability to maintain an efficient coronary circulation. Gallbladder pathology may be the exciting cause of the anginal syndrome, especially if combined with some coronary sclerosis or myocardial degeneration; or an anginal attack may be closely simulated by the pain of biliary colic when it is referred largely or entirely to the chest. Biliary colic and angina pectoris of purely cardiac origin may occur in the same patient at the same or different times. This demands careful study of the patient to determine if possible the underlying pathology; whether it is of a purely cardiac origin or whether it is based on obscure gallbladder disease, the treatment of which may bring complete relief.

Coronary occlusion is a more definite disease entity and since its description by Herrick in 1912 has been recognized with increasing frequency. Its importance in relation to gallbladder disease arises from the fact that it occasionally shows upper abdominal pain, which must be differentiated from the other acute pains of the abdomen in order to avoid one of the disasters of abdominal surgery. Coronary occlusion shows pain of anginal character but more intense and persistent, often described as crushing, constricting or agonizing and with radiation to one or both shoulders or arms, to the neck, jaw, back or upper abdomen. Unlike the pain of simple angina pectoris, which is related to effort or emotion, relieved by rest or nitrites, of brief duration and not as a rule accompanied by marked circulatory disturbances or systemic reactions, the pain in coronary occlusion may develop spontaneously at rest or follow indiscretions in diet or exercise, may last for hours or days, may be unrelieved by rest or nitrites, and may be accompanied by profound circulatory disturbances and general symptoms. Immediate circulatory weakness may show as shock, collapse, cyanosis and dyspnea, a rapid and feeble pulse, a fall of the blood pressure below its customary level, distant and feeble heart sounds, arrhythmias of varied type, and later signs of congestive failure. Nausea and vomiting are common and after some hours fever and leukocytosis usually occur. Also after some delay a pericardial friction rub may be heard if the anterior surface of the heart is involved in the infarction; it is seen in about 15 per cent of the cases and is likely transient; if the endocardium is involved, mural thrombosis and embolic phenomena may result. Other diagnostic aids are derived from the age of the patient, which is almost always over forty years; from the sex,

which is dominantly male; from a past history of anginal attacks or arterial hypertension; and from characteristic changes in the electrocardiogram. The cardiographic changes concern especially the T wave, but they vary somewhat with the duration of the occlusion and may not be fully developed to give the desired help in the immediate diagnosis of the acute attack; however, if present, they are of great value.

In contrast to cardiac pain, which is usually substernal and less often precordial or epigastric, that of gallbladder disease is almost always epigastric or in the right hypochondrium; the radiation usually differs; the pain is more likely sharp and knifelike without the constricting feeling, usually felt in the chest even when cardiac pain is largely abdominal; gallbladder pains may come on spontaneously, but more often following errors in diet rather than from effort or emotion; occasionally slight relief may be obtained from nitrites but morphine is usually required. The pain of gallbladder disease is rarely as persistent or as frequently repeated as that of established coronary disease. A history of attacks of pain or food intolerance extending over many years is more suggestive of gallbladder disease since the duration of life after the first attack of coronary occlusion is usually relatively short, although there may be a longer history of angina preceding the occlusion. Nausea and vomiting may occur in either condition; the same is true of liver enlargement. Jaundice, while seen occasionally in coronary disease, especially if associated with congestive failure, is much more common in biliary disease and definitely suggestive of it. Fever and leukocytosis occur in both conditions although gallbladder disease is the more probable diagnosis where there is a great elevation of temperature or leukocyte count. Marked circulatory symptoms usually indicate coronary disease. Age and sex are of some help in diagnosis since gallbladder disease is seen predominately in women in a proportion of four to one, while exactly the reverse proportion is found in coronary thrombosis. Both coronary disease and gallbladder disease are seen almost entirely in adults past middle life; yet the average age is slightly lower in gallbladder disease; Faulkner, Marble and White found an age average of 47 years with a range from 23 to 65 years, while in coronary disease the average was 58 years, with a range from 43 to 76 years. Duodenal drainage may show some evidence of gallbladder infection and fluoroscopy of the chest may show limited excursion of the right diaphragm during acute attacks, but it is from gallbladder visualization by the Graham-Cole method that one must obtain the most definite confirmation of the pres-

ence of gallbladder disease. In most cases a diagnosis can be made with reasonable accuracy by a careful study of the symptoms and findings as described, aided by the electrocardiograph, cholecystogram and other laboratory helps. Special difficulty attends the case in which both cardiac and gallbladder diseases are present; here one requires evaluation of every bit of information and sound judgment.

There is no need to discuss the treatment of gallbladder disease except to point out that there is some question as to whether this condition is ever entirely harmless, and that the greatest factor in biliary deaths is delayed operation with its resulting changes in physiology and pathology. Patients are much better able to stand gallbladder surgery if they are not permitted to go through repeated attacks of cholecystitis or gall stone colic. Nor is there need to consider the general treatment of cardiac disease and cardiac failure, nor even the more limited treatment of angina pectoris and coronary occlusion. The special problem that does deserve mention is rather the treatment of cases in which both cardiac disease and gallbladder disease are present. Here the proper choice of treatment depends largely on an accurate diagnosis and careful evaluation in each case of the relative importance of each condition and the urgency of need of relief. In milder grades of gallbladder disease with only slight cardiac impairment medical treatment by rest, regulated exercise, weight reduction, diet, cardiac medication and non-surgical drainage of the biliary tract may improve both conditions. Even where more marked disease is present, or when surgery is contraindicated, the same methods may be tried before surgery is attempted. They should also be used after operation since cholecystectomy alone often fails to clear up entirely associated pathology in the rest of the biliary tract. In acute coronary occlusion, surgery of the gallbladder is, of course, useless and likely disastrous; Barnes states that the greatest risk in coronary disease is to the patient with recent acute occlusion and that whenever possible major surgery should be postponed for at least ninety days after acute occlusion. In less acute cases of coronary sclerosis and myocardial degeneration, gallbladder surgery may be well worthwhile or even urgently required. Often the patient with heart disease is a reasonably safe surgical risk in spite of arrhythmias, a history of anginal pain, or even the early signs of myocardial failure and he should not be denied relief from a definitely surgical disease, especially when the heart condition is likely to show improvement after operation. Careful preoperative treatment may greatly reduce

the cardiac risk where the heart condition is unfavorable.

It has been pointed out by Willius and Fitzpatrick and more recently by Stalker and Walters that the choice of surgery depends on the immediate risk of the operation (determined by the skill of the surgeon and anesthetist, careful selection of cases and proper preoperative preparation), the life expectancy with or without operation, (especially the probable effect of surgery on the cardiovascular system), and on the urgency of need of operation. At times the need of relief from frequent severe colic or common duct obstruction will require assuming risks scarcely justified by the condition of the cardiovascular system, risks assumed only because health and life are seriously endangered. Mortality results in such cases can be expected to be higher, but yet they have been fair enough to show the relative safety of operation and even surprising cardiac improvement. Strauss and Hamburger have shown that certain types of arrhythmia do not render surgery impossible. Walters and his associates have shown that age is not necessarily a contraindication and that successful surgery can be done even with rather severe grades of coronary sclerosis or recent occlusion. McQuiston and Allen report only a two per cent mortality rate in 100 cases of cholecystectomy associated with hypertension as compared with a mortality rate of 1.7 per cent reported by Judd and Walters in 579 cases without hypertension. The study of fatal cases of gallbladder surgery by Colp and Ginzburg shows a relatively small number of death attributed to cardiovascular disease, three of 130 cases. In the report of Willius and Fitzpatrick of 79 patients with cardiovascular disease operated upon for associated gallbladder disease, only one death was attributed directly to the heart.

While these reports are encouraging and show the possibilities of careful surgery they do not justify indiscriminate operating in all cases of gallbladder disease associated with cardiac disease; at the best there must be a conscientious appraisal of the risk and, where need is not too urgent, proper preparation. There is certainly enough evidence of reason for checking the gallbladder condition in every cardiac case with possible gallbladder relations. If justifiable pathology is found these patients need not be denied the relief of operation, although surgery should usually be reserved for those showing indications which would justify operation in the absence of heart symptoms. Heart symptoms alone rarely constitute the indication for surgery; for example, Barnes says the mere "hope of influencing the

course of angina pectoris should seldom, if ever, influence the surgeon to perform a cholecystectomy." It is true, however, that in gallbladder disease associated with anginal pain, surgery is rendered more justifiable by the difficulty in determining the exact degree in which symptoms are of cardiac or biliary origin. In general the indication for operation is to be found in the condition of the gallbladder and biliary tract, remembering that the presence of cardiac symptoms or complications is often no contraindication to necessary surgery.

SUMMARY

1. Clinical experience has shown a probable relationship between gallbladder and heart disease.
2. The degree of relationship may be debatable, whether gallbladder disease actually causes heart disease, but there is abundant evidence that it exerts a harmful effect on the heart already damaged.
3. In diagnosis it is important to decide whether symptoms are due to the heart alone, the gallbladder alone, or to both combined.
4. Study of an accurate and complete history, present and past, is of greatest value, supplemented by the use of all possible diagnostic aids, and at times a period of observation.
5. Surgical treatment of a diseased gallbladder may improve the heart condition by removing a focus of infection or other damaging factors.
6. Where gallbladder pathology exists, surgery in many cases need not be denied because of complicating heart symptoms, and these symptoms may even be added justification for surgery.

PREOPERATIVE AND POSTOPERATIVE CARE*

J. E. BRINKMAN, M.D., Waterloo

If anyone in this room decided it was expedient to take a trip known to be more or less dangerous and fraught with hardships, he would immediately set about to do all within his possibilities, to "lessen the dangers" and "minimize the hardships"; and gentlemen, the trip through surgery is a dangerous journey. I can think of no surgical procedure, either major or minor, which is not potentially dangerous. No doubt, we can all recall instances in which we were justified in making a most favorable prognosis. So sure were we in fact that we could name almost the exact day when the patient would be discharged from the hospital; but something went wrong. What we had every reason to believe would be a joy in

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reality proved to be a tragedy! We are not discussing any particular operation, but surgical cases in general, and while they differ with reference to their mechanical technic, there are certain fundamental principles which, viewed in the light of our present knowledge, present definite indications as well as contraindications.

Let us take up first the water balance as it exists in the normal individual. Water comprises about 65 per cent of the total body weight and is fundamentally concerned with every physiologic process; consequently, the water balance is of great significance to the proper functioning of the organism under all conditions. Under conditions of health, nature maintains this water content at a fairly constant level through liquids drunk. On the average, the water content of foods represents about 70 per cent of its total weight, and during the process of digestion, there is an additional source available through the constituent protein, fats and carbohydrate oxidation. As previously stated, nature automatically maintains a fairly constant water balance, and is able to tolerate a moderate deviation without any appreciable disturbance. If the imbalance becomes too great, then there is danger of toxic retention, which, if permitted to continue may cause a change in the body chemistry. We must accept the fact that water is constantly being lost through normal functions, and in surgical cases there is always an additional fluid depletion, the result of hemorrhage, oozing from raw surface, diaphoresis, vomitus, etc. If we fail to employ suitable means for replenishing these losses, eventually our patient will present symptoms of dehydration; i. e., great thirst, dry skin, sunken eyes, moderate elevation of temperature, dry tongue and scanty urine. By the time the individual has reached this state, he has already been depleted of an amount of fluids estimated as being equal to six per cent of his body weight. Incidentally, this clinical picture was first recognized in connection with Asiatic cholera about one hundred years ago.

Maddock and Coller* have made a careful and exhaustive study with reference to the water balance in connection with surgical cases. "The surgeon who is quick to recognize the signs of dehydration in a patient seen for the first time, may overlook the same signs when they occur in a patient he is seeing every day, and who is actually dehydrated because of abnormal fluid loss. The resulting poor output of urine is often erroneously attributed to a reflex or toxic suppression of kidney function, whereas, the real fact is,

that the patient has not been given sufficient water. This point cannot be too strongly emphasized. There are many causes of anuria, but no others should be considered until the water exchange of the few previous days has been checked over and dehydration as the etiologic factor has been eliminated." By carefully weighing their patients before and after surgical intervention, these surgeons have arrived at this conclusion; in patients convalescing smoothly from major operations, the usual fluid lost from vaporization is from 1,000 to 1,500 cubic centimeters (one to one and one-half quarts) daily, and in some cases, the loss was as much as 2,500 cubic centimeters. Their conclusion then is that the average water lost through vaporization alone can safely be estimated at 2,000 cubic centimeters (two quarts) in twenty-four hours. We must remember that this does not take into account the amount required for proper kidney elimination, and these workers contend that an additional 1,500 cubic centimeters are required for this purpose.

Using this as a standard of weight and measure, the required replacement amount is 3,500 cubic centimeters (three and one-half quarts) and to this should be added the actual or estimated quantity of all fluids lost as previously referred to, and the quantity of liquids drunk and retained, may be deducted. In giving fluids parenterally there is a possibility of causing some circulatory disturbance. I feel that if any embarrassment manifests itself, it is not so much the result of quantity as it is of rapidity. In my experience, I have found very few patients who cannot take 1,000 cubic centimeters in from forty-five to sixty minutes without any manifestation of circulatory disturbance. However, these patients should be watched, and upon the least suggestion of cardiac embarrassment, the flow should either be temporarily discontinued or its rate diminished. Someone may say, "I believe that this water business can be overdone." With this I am in hearty accord. On the other hand, I do not believe there is much more danger of over treatment than there is of under treatment. In some instances, particularly where it is necessary to give large amounts covering a period of several days, water logging may become manifest. In their discussion of this condition, Maddock and Coller have come to the conclusion, both from laboratory findings and clinical observation, that this condition is brought about as the result of sodium chloride retention, and that upon discontinuing sodium chloride, the water was quickly given off, even when they continued giving fluids. Keith believes the sodium radical is responsible for the water retention. Be that as it may, the promiscu-

* Maddock, Walter G., and Coller, Frederick A.: Water balance in surgery. *Jour. Am. Med. Assn.*, cviii:1-6 (January 2) 1937.

ous use of sodium chloride may, in some instances, cause water logging.

As we know, there are five methods of putting liquids into the system; i. e., by water drunk, foods eaten, proctoclysis, hypodermoclysis, and by intravenous injections. Water or food by mouth in sufficient quantity immediately following operation is, as a rule, impossible. As a result we must resort to one or more of the other methods. Proctoclysis has, in my estimation, been given more credit than it really deserves, for the amount actually absorbed is both too limited and too uncertain to be of any particular service and it always distresses the patient. Hypodermoclysis is positive in effect and easy to administer. If given in large amounts, and repeated at frequent intervals it may cause more or less discomfort; but in children and very obese individuals, it would probably be given preference over any of the methods available. The reason is self evident. The intravenous route, unless otherwise contraindicated, is the method of choice as far as I am concerned. By this means, any desired amount may be given with the least discomfort to the patient.

So far we have been discussing this problem more or less from a scientific viewpoint. We have endeavored to show that certain things might "lessen the dangers". Let us now turn briefly to the humane side of our dealings with the individual and discuss some of the things we can and should do to "minimize the hardships." An individual may sustain "surgical shock" and we are deeply concerned with its prevention and treatment. This same individual is also susceptible to "psychic shock," which so far as his actual sensations are concerned, is even more distressing than surgical shock. From the moment the patient enters the hospital, until the time of his discharge from that institution, kindness, gentleness and sympathy should literally radiate from all those who come in contact with him, for even if he makes no outward demonstration of fear, many things are passing through his mind. If he has the intelligence of the average individual, he knows only too well that people have died of the same operation he is about to undergo. Is there one connected with the personnel of such an institution who would dare say his fears were wholly unjustified? The zero hour has come when the patient is placed upon the cart and taken toward the operating room! With every turn of the wheels, his fears and apprehensions multiply. Finally, the door swings open and he looks inside. Suddenly something happens which gives him an unnecessary "psychic shock." He sees spread out on the table in most orderly array

shiny, hard, cutting instruments (usually about three times more than are actually used). Have you ever had a patient say, "Why, doctor, you surely won't have to use all those instruments on me, will you?" Perhaps he may have smiled a bit when he made that remark, but he did not feel like smiling, for he really meant it. Is there a justifiable reason why the instruments should not be covered? Is it possible that those responsible have no consideration of the patient's feelings? Or is it probably just an oversight? The cart is wheeled along side the operating table and he is commanded to crawl over because most of the people around there are either too busy or too clean to afford him much assistance. The least we could do would be to slip a pad under his back, as a means of maintaining the normal lordosis, thereby preventing much of the backache which is often the result of muscle and ligament sprain.

We frequently overlook the fact that often the anesthetist is a stranger to the patient, and many times we find people who are even more afraid of the anesthetic than they are of the operation. The patient is acquainted with his surgeon and has the utmost confidence in his ability, but how does he know this stranger is not going to kill him with the anesthetic? How, may I ask, does anybody know, for the absolute safe anesthetic is unknown. We could do much in relieving the patient of unnecessary anxiety by assuring him that we have the utmost confidence in this individual's ability. Regardless of how skillful our anesthetist is, unless he is kind and gentle, in my judgment he lacks some of the essential qualifications required of every good anesthetist. On the table in front of him lies a human being possessed with fears, emotions and senses. There comes a time during the course of events, when the patient feels as though he were approaching the final moments in his life, when his emotions and unpleasant sensations are loaded to capacity, when all sounds are intensified. He feels certain that the anesthetic is being given too fast, and unless he gets more air, he will surely die of suffocation. Just at the time when he needs someone who is comprehensible, who could do much in the way of alleviating his apprehensions by saying "You're all right, don't be frightened," this so-called expert anesthetist may suddenly blurt out, "Breathe it in." This is, I think, "psychic shock."

So far we have been discussing the other fellow. Now what about our own conduct? We are guilty many times of making unnecessary noise within the hearing of the patient, his family or friends, carrying on too much trivial conversation, or indulging in too much laughter. To them

it might appear that we have no particular interest in the patient, and are quite unconcerned as to the success or failure of the operation. Their hearts are aching for the one just inside the door. I feel that our demeanor often reflects a lack of even ordinary courtesy, when viewed in the light of existing circumstances. As a basis for discussion, it now becomes my duty to give you my method of procedure, both from a preoperative as well as a postoperative viewpoint. It is quite probable, however, that some of this may, in the light of your larger experience and better judgment, prove to be incompetent, irrelevant and immaterial.

PREOPERATIVE

I am sure we appreciate the fact that the preoperative care in emergency cases differs from that of the elective type. There are a few instances in the latter type which demand an additional preoperative preparation. I refer to the use of Lugol's solution in connection with goiter cases. The work of the late Dr. H. S. Plummer

vein, I catch it on either side with a pair of mosquito forceps. This stabilizes the vein. It is rather difficult for me to introduce the needle (and I like one of rather large caliber) without causing a slight tear in the vein before the needle actually pierces it. I feel that this may be prevented if the vein is first pierced by means of a very small point knife. Through this opening the point of your needle may easily be introduced, the opening dilates but does not tear, with the result that practically no blood escapes around the needle. In obtaining blood from the donor, the needle should be pointed in exactly the opposite direction from that used on the recipient. By this means the blood flows directly into the needle.

In regard to the patient who says he "just can't drink water," I believe many of these can be given a rather large amount in disguise. I leave an order for medicine (a pink soda tablet) and endeavor to impress upon the patient the necessity of taking this medicine, also the importance of taking it exactly as directed, which is: the med-



Fig. 1. Method of introducing needle into vein for transfusion.

has, no doubt, done more in lowering the mortality rate in goiter surgery than any other single agency. To the second group belong those cases which have more or less bladder obstruction, with a like degree of genito-urinary tract infection plus impaired kidney function. Here again adequate, and perhaps a rather prolonged preoperative procedure is imperative. Of course, no one would of choice subject to surgery any patient who presented a picture of a greatly depleted blood stream, unless immediate surgical intervention was necessary as a means of preventing further loss of blood. In that instance, transfusion should be done before his removal from the operating room.

With your permission, I should like to show upon the screen a simple technic which I have employed for a number of years. I think it has some advantages over the ordinary way of introducing the needle into the recipient's vein. (See Figure 1.) I infiltrate with a small amount of novocain. After cutting down and exposing the

icine must be taken with no less than one glassful of water. If the person is unable to retain fluids in proper amounts, then I employ one of the means previously discussed. This forced fluid intake is continued until I feel that a proper water balance prevails, after which he is permitted water when he wants it, to within four hours before the anesthetic. If I use a laxative, I give it the night of the second day prior to operation. I do not give a drastic cathartic, but something which will usually insure free evacuation of feces and gas with a minimum loss of body fluid.

After the surgical preparation, the usual "prep" dressing is omitted, because it feels unnatural to the patient and affords no protection as far as contamination is concerned, for there is nothing to prevent the patient from reaching under the bandage. Furthermore, it is not good psychology for the patient to be reminded constantly of what shall occur in the morning. I want my patient to have a good night's rest. I give some one of the

barbiturate preparations. Occasionally I repeat this just prior to the operation. I feel that the remedy used should be the one of choice by the individual surgeon. I usually leave an order for an enema to be given the next morning. I prefer having the patient get out of bed, if possible, to expel the water.

For adults, I routinely leave an order for morphine, gr. 1/6, and atropine, gr. 1/150, to be given forty-five to sixty minutes before the patient is taken to the operating room. I want him to get the full physiologic action of the drugs before the anesthetic is started. It lessens apprehensions and checks secretions, thereby making the administration of an inhalation anesthetic easier and safer. I do not permit the employment of an airway, for I am of the opinion that the inhalation of a more or less irritating vapor direct into the trachea predisposes to pulmonary complications. I do not wish to convey the idea that I regard the use of an inhalation anesthetic as being the best and only means for the production of anesthesia in all cases. There are various other agencies and methods such as regional, spinal, rectal and intravenous; and I consider it both unsafe and unwise for a surgeon to say that he uses a certain anesthetic in all cases. With larger experience and greater confidence in some of the newer methods at our disposal, we will be in a position to select the anesthetic which is particularly appropriate for the case at hand.

POSTOPERATIVE CARE

That part of the journey through surgery which is fraught with the "greatest hardships," and during which unsuspected difficulties may be encountered, is the road which leads away from the operating room. Our responsibilities do not cease as soon as the operation is finished. Many a surgical battle won on the operating table is needlessly lost in the convalescent room! It is your duty and my duty, personally, to attend to postoperative directions. May we never lose sight of the fact that the patient is relying wholly upon our surgical skill and that he is assuming we will do all within our limitations to assure his safety and comfort. Do not break faith with him and try to ease your conscience with the alibi that you are too busy.

Though much has been written on postoperative shock, and lengthy and eloquent as the discussions have been, there is still no unanimity of opinion as to the exact mechanism of this clinical syndrome. Apparently various causes may contribute to this condition. Quoting from Bickham, "Shock is a reflex depression of the vital functions due to bodily injury, traumatic or operative, due

to prolonged operation, or error of anesthetization, due to psychic influence, especially strong mental emotions of a distressing nature, resulting in the exhaustion of inhibition of the vasomotor mechanism." Time will not permit a discussion of this phase of the problem, nor do I feel qualified to do so. As to the treatment, I feel that anything which I might suggest to an audience such as this, would only be a superfluous repetition of means and methods with which you are already familiar.

There was a time when it was believed that an opiate should not be used because it caused distention. I think we have all come to believe that this is a fallacy and not a fact. I routinely leave an order for an opiate sufficient in amount to keep the patient reasonably comfortable. I mention the use of the colon tube only to condemn it. I am positive in my own mind that in most instances it simply coils up in the lower bowel, and is of no particular value in giving a high enema. Its frequent use only causes unnecessary traumatism. If I wish the enema to reach into the colon, I simply elevate the foot of the bed, and let the water run down hill. I hope none of us is guilty of unnecessary dressings. Many wounds become infected by such a procedure. Another important item is in regard to antiseptics. I consider it bad surgical technic to permit irritating antiseptics to come in contact with granulating surfaces. Such a procedure does not assist but hinders nature in her attempt at restoration. When I apply moist dressings, I seldom use anything stronger than a boracic or normal saline solution. If I irrigate a sinus, it is only with the idea of gently floating away devitalized tissues and here again a normal saline solution will accomplish the purpose with the least possible irritation. Years ago our patients were given strong cathartics. We thought it necessary to start them on calomel as soon as they could retain it. This was followed by a liberal quantity of Epsom salts. As a result, they became distressed, discouraged, depleted and dehydrated. I have no set rule as to when I give a postoperative laxative; sometimes comparatively early, occasionally not at all.

SUMMARY

1. The patient should be in as good a physical condition before operation as time will permit.
2. Practically all patients who have undergone major surgery, develop a body fluid imbalance.
3. The wound should be left alone unless there are definite indications for inspecting it. If it is necessary to change a dressing, the knife and fork method should be used.
4. In the presence of granulating surfaces, irritating antiseptics do more harm than good.

5. There are few contraindications to the judicious use of opiates.

6. The importance of preventing "psychic shock" as well as "surgical shock" should ever be kept in mind.

In closing, permit me to say, there can be no evidence of more implicit faith in another individual than that which the patient manifests in his surgeon! With your permission, I should like to paraphrase the well-known Biblical quotation to read as follows: "Greater faith hath no man than this, that a man lay down his body for his surgeon."

803 Waterloo Building.

CLINICAL NOTES FROM THE COLLEGE OF MEDICINE

ACUTE HEMOLYTIC ANEMIA

W. M. FOWLER, M.D., Iowa City*

Those anemias which are caused by hemolysis of the erythrocytes present some of the most difficult and confusing problems in the field of hematology. Many of these are due to infections, drugs or toxins, but aside from this group which are secondary to a recognizable etiologic agent, there are many cases which seem to represent primary blood dyscrasias. An attempt has been made to separate this latter group into several distinct clinical entities but difficulty is encountered in classifying many cases since they are atypical in some respects and do not fit in any of the recognized groups. Although the barriers erected to subdivide these hemolytic anemias into separate disease entities are arbitrary and artificial, it seems worthwhile in the present status of our knowledge to make use of them, but to realize that in the future it may be necessary to change many of our present ideas.

The features which are common to all cases of primary hemolytic anemia are: first, anemia of a varying degree, depending upon the rate of hemolysis and regeneration; second, increased bilirubinemia with icterus, increased urobilin in the urine and stools, and an indirect van den Bergh reaction; and third, leukocytosis of a variable degree as a result of the generalized bone marrow hyperplasia. The most common types of hemolytic anemia are acquired and congenital hemolytic icterus. In addition to the above features, these are characterized by splenomegaly and an increased fragility of

the erythrocytes and during their course may present acute exacerbations accompanied by an increase in the jaundice, increasing splenomegaly, fever and attacks of severe abdominal pain.

During the past few years there have appeared in the literature an increasing number of reports of acute hemolytic anemia which differ in many respects from acquired hemolytic icterus and the present consensus is to consider this as a distinct clinical entity. Attention was first focused on this condition by the papers of Lederer,^{1 and 2} and Brill,³ and the disease is sometimes called Lederer's or Brill's anemia, although there are earlier case reports in the literature.^{4 and 5} Giordano⁶ in a recent review of the disease found 52 recorded cases, but this in no way represents the true frequency of the illness since most cases escape recognition and it is undoubtedly much more common than is generally thought. It must be considered in the differential diagnosis of all cases of severe hemolytic anemia. The following case report illustrates many of the features of this disease:

A white female, twenty-eight years of age, complained of becoming suddenly ill three weeks before admission to the University Hospital. She first noted extreme weakness and was told that she was jaundiced. Soon after this she lost her appetite and three days later began to vomit frequently. Six days after the onset of the weakness she herself noticed that her skin and eyes were yellow. Ten days after the onset she was given a transfusion which was followed by a marked improvement in all respects, but the symptoms recurred and the weakness gradually progressed. There had been no hemorrhage from any source and she had been in contact with nothing which might influence hematopoiesis or hemolysis. The family history was entirely negative.

On admission there was marked pallor and a slight icterus. There was no lymphadenopathy. The liver was slightly enlarged and the edge of the spleen was palpable below the left costal margin. The remainder of the physical examination was essentially normal. Examination of the blood showed 2.04 grams of hemoglobin per 100 cubic centimeters of blood, 930,000 erythrocytes, and 6,000 leukocytes, with a normal differential count. The bleeding time and coagulation time were normal, the clot retractility was normal and platelets were present in normal numbers. Fragility of the erythrocytes began at .46 per cent saline and was complete at .34 per cent. The hematocrit was 7.5 per cent and there were 5.4 per cent reticulocytes. The van den Bergh test showed 5.2 mgm. per cent with a biphasic reaction. The gastric acidity was normal. The temperature ranged between 102 and 103 degrees, the highest peak being 103.6 de-

* From the Department of Theory and Practice of Medicine.

grees. Agglutination tests for typhoid, paratyphoid, and undulant fever were negative and no localizing evidence of an infection could be detected. The temperature persisted at this level for three weeks, and then gradually subsided to normal at the end of six weeks. After seventeen days in the hospital she developed a thrombophlebitis which gradually subsided. Blood cultures were sterile. The hemoglobin increased from 2.04 grams to eight grams, the hematocrit from 7.5 to 30 per cent, and the bilirubinemia decreased to normal. The patient received liver extract intramuscularly and by mouth, but with this treatment there was no significant increase in the reticulocytosis, and it seems doubtful if this therapy had any influence on the course of the anemia. Five months after discharge she returned to the hospital with 11.71 grams of hemoglobin, 4,100,000 erythrocytes, and 5,800 leukocytes, with a normal differential count. Hemolysis of the erythrocytes at this time began at .44 per cent saline and was complete at .32 per cent. The gastric acidity was normal, and there was no increase in the reticulocytes.

The characteristic features of this disease consist of the sudden onset and rapid development of a severe anemia, associated with fever and jaundice. It may occur in either sex and at any age, but is most common in younger individuals and particularly in the first two decades of life. The onset may be with weakness, pallor, jaundice, gastro-intestinal symptoms, abdominal pain, or with chills and fever. The temperature may reach 104 degrees or higher, and a hyperpyrexia may occur in the fatal cases. The usual manifestations of a severe anemia, including shortness of breath and palpitation, will appear. The spleen may be slightly enlarged, but this is not constant. The degree of jaundice is variable but the pallor and anemia are usually more prominent than the icterus. There are no neurologic findings and no atrophy of the tongue or finger nails.

The hematologic features consist of an anemia which progresses rapidly, but the color, volume, and saturation indices are approximately normal or slightly elevated. The erythrocyte count may fall to 1,000,000 or less within forty-eight hours,⁷ but more frequently the erythrocytes are between 1,000,000 and 2,000,000. The reticulocyte count is increased and is usually between ten and forty per cent. Polychromasia is marked and nucleated erythrocytes are frequent. A leukocytosis is usually present, and, although counts of as high as 130,000 have been recorded, it is more common to find from 20,000 to 50,000. There is a definite shift to the left with a few metamyelocytes and myelocytes present. When these cells are parti-

cularly numerous, it may suggest an acute leukemia. Cases have been recorded with normal leukocyte counts and even occasional ones with a leukopenia. There is no change in the resistance of the erythrocytes to hypotonic saline solution in the majority of cases, but occasionally the fragility is found to be slightly increased at the height of the disease. The absence of changes in the fragility is a major feature in differentiating the condition from an acute exacerbation of congenital or acquired hemolytic icterus.

The course is acute and recovery or death will usually occur within six weeks. Occasionally the onset is less rapid and may be preceded by a period of several weeks of ill health. During recovery the temperature drops by lysis. In fatal cases generalized edema, stupor, coma, and hyperpyrexia may occur. The prognosis in untreated cases is very grave, but recovery when it occurs is usually complete and recurrences are extremely rare.

In the treatment of acute hemolytic anemia, transfusions seem to be specific and the temperature may fall rapidly and the patient recover completely after one transfusion. In most cases, however, several transfusions are necessary. One fatal transfusion reaction has been reported in this disease,⁸ but dramatic improvement is the rule.

The pathologic changes are not specific. The spleen is enlarged and the liver shows acute parenchymatous degeneration. The bone marrow is hyperplastic. Evidences of excess iron containing pigment are found in the tissues by the Prussian blue reaction as a result of the hemolysis. The pathogenesis of the disease is not known, and, although a toxin, either chemical, food or from micro-organisms, has been suspected, there is no proof of this.

The disease must be considered in the differential diagnosis of all cases of hemolytic anemia. The absent or slight changes in the fragility of the erythrocytes is the principal feature that serves to differentiate this condition from acute exacerbations of congenital or acquired hemolytic icterus. The differentiation is, however, difficult in slightly atypical cases. The importance of proper diagnosis lies in the striking benefit that is derived from transfusions, whereas in acquired hemolytic icterus severe reactions to transfusions are frequent.

The case presented here did not have a leukocytosis and 12.2 per cent was the highest reticulocyte count recorded. The response to one transfusion was excellent, but symptoms recurred. Subsequent transfusions were not administered since their specific benefit was not realized at the time this patient was in the hospital, but if they had been given, it is probable that the course of her illness would have been considerably shortened.

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THE FINLEY HOSPITAL CLINICO-PATHOLOGIC CONFERENCES

CANCER OF THE KIDNEY Six Year Cure

A. B. NESLER, M.D., Dubuque

It is a recognized fact that time is the essence of the successful treatment of cancer of all types. The result of treatment whatever its nature depends more upon the stage of the disease than upon our skill. The case to be reported is of importance not only because it presented the clinical picture typical of renal cancer but because a cure was obtained by performing early nephrectomy.

CASE REPORT

Chief complaints: The patient, a white man, forty-seven years of age, was admitted to the Finley Hospital, August 11, 1931, with the following complaints: first, a steady, dull ache in the left lumbar region of three months' duration; second, the passing of blood in the urine at the times of the most severe pain in the kidney region of three weeks' duration, and also a history of having passed blood for several days about eight months before admission; and third, the loss of between twenty and twenty-five pounds in weight in the three months just prior to his admission.

Family history: The patient's mother had died of old age; his father of dropsy. Three sisters and two brothers were alive and well. There was no history indicating cancer, diabetes or tuberculosis in the family.

Past history: The patient had had measles, mumps and influenza in early life. He had also been subject to colds. Fourteen years before the present illness the patient's appendix had been removed but he had had no other operations or injuries. Specific information in regard to the gastro-intestinal, vascular, nervous and respiratory systems was essentially negative.

Present illness: The patient felt perfectly well until eight months before coming to the hospital when on returning from a hunting trip, he had had a sudden attack of severe pain in the left kidney region. This was followed by hematuria for several days. He had had no further trouble for about five months when he developed a steady dull ache in the left loin and began to lose weight (lost between twenty and twenty-five pounds in three months). During the immediate three weeks before admission the pain in the kidney was accompanied by attacks of painless hematuria.

Physical examination: The patient was a tall, thin young man who did not appear to be suffering. The eyes and ears were negative, but there was a deviation of the nasal septum to the right. Many teeth had fillings and the dental hygiene was poor. The tongue was moist and had a fine tremor. The tonsils were small and slightly infected. The chest was thin and there was an outward flare of the lower border. The lungs were normal. The heart beat was regular but rapid (94 per minute); it was not enlarged but there was a suggestion of a systolic murmur at the apex. The blood pressure was 122/90. The abdomen showed the appendectomy scar. The left kidney was somewhat enlarged, but not tender to palpation. The right kidney could not be definitely palpated. No other masses were found in the abdomen. A small nodule was found in the upper pole of the left epididymis, but otherwise the genital tract was normal. The skin and nervous systems were negative. The temperature was 99.2 degrees.

Laboratory examination: The urine showed a faint trace of albumin, a rare leukocyte and hyaline cast, but no red blood cells were found on three examinations. The blood examination showed a white blood count of 8,200; a red blood count of 5,000,000; hemoglobin, 88 per cent; and the differential count was normal. The patient was typed as being in Group IV.

X-ray examination: Flat films of the urinary tract were negative for calculi. The right kidney shadow was normal, but that of the left was markedly increased in size. Injection of the right kidney showed no evidence of pathology in either the pelvis or calices, but the pelvis was of the bifid type. Injection of the left kidney showed an unusual degree of hydronephrosis. There was a large sac present which extended inward as far as the spinal column. The calices were negative and the ureter was not outlined (Fig. 1).

Cystoscopy: The bladder mucosa was normal. Both ureters were easily catheterized. The urine on the right was yellow, that on the left very pale yellow. Dye appeared on the right in two minutes, but did not appear on the left during the examina-

tion. The laboratory examination of the urine obtained during the cystoscopic examination showed each specimen to be sterile, negative for tubercle bacilli or other infections. Each showed a faint trace of albumin and the left ureter urine contained twenty to thirty red blood cells per high power field.

Diagnosis: A preoperative diagnosis was made of chronic hydronephrosis with a question of a tumor.

Operative notes: The kidney was removed without difficulty through an incision extending between the crest of the ilium and the twelfth rib on the left side.

Pathologic report: The specimen was a kidney with a tumor mass, approximately seven centimeters in diameter and apparently arising in the medullary portion of the kidney. It pressed on the pelvis but had not invaded it. The cut surface of the tumor was composed of round and oval masses varying between one-half and one centimeter in diameter (Fig. 2). Some of the nodules were well encapsulated and were composed of soft, pink translucent tissue. Some of them had a distinct yellow tint and still others showed small cyst-like areas. Microscopically the tumor was a papillary adenocarcinoma.



Fig. 1. Pyelogram with an outline of the enlarged kidney and of the defect of the renal pelvis.

Postoperative course: The patient had an uneventful recovery and went home on the twentieth day. He remained well and on examination in

1937 (six years after the operation) shows no evidence of recurrence and seems perfectly well.

Comment: This case presented the three classical signs of cancer of the kidney, first, hematuria; second, pain in the kidney region; and third, tumor. An additional sign and one which is fairly common in cancer of the kidney, loss of weight,

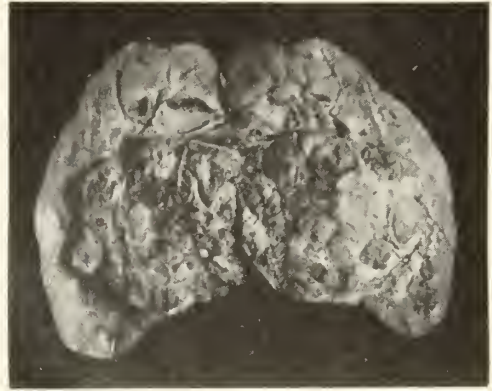


Fig. 2. Photograph of the kidney showing the tumor pressing upon the renal pelvis.

was also present. In retrospect, the diagnosis should have been suspected in the case from the history and the physical examination. The x-ray examination was confusing but fortunately a decision to operate was made with the beneficial results for the patient who probably is permanently cured. However, it should be noted that the ideal toward which the cancer educational program points, is that the patient should have recognized the seriousness of the hematuria at the first attack, eight months before he was operated upon. Undoubtedly the cancer was present at that time and if cure was obtained at the latter date how much more certain would it have been at the first attack? Both professional and lay groups must learn the significance of the early signs of cancer if we may hope for a reduction in the cancer mortality rate.

GENERAL DISCUSSION

Types of renal cancer: In children, the adenocarcinoma (Wilms' tumor) is one of the most common forms of cancer. In adults there is some confusion in the nomenclature of renal neoplasms and they are variously known as hypernephromas, hypernephroid tumors, nephromas or carcinomas. Probably the terms are synonymous and the essential fact to remember is that practically all tumors of the kidney which give rise to symptoms are malignant. Clinically, renal neoplasms are divided into two classes: those arising in the medullary or excretory portion, and those originating in the cortical or secretory portion of the kidney. The

former includes papillary and squamous cell cancer of the renal pelvis and makes up about five per cent of renal tumors. The vast majority are probably carcinomas (solid or cystic) originating in the epithelium of the kidney tubules. Benign tumors and sarcomas are very rare in the kidney. True hypernephromas may occur but if so they are extremely rare.

Clinical signs and symptoms: Spontaneous, painless hematuria is a most important sign of cancer of the urinary tract. While it may result from several other conditions it is always imperative to determine its etiology as soon as possible. One of the reasons for poor results in the treatment of renal cancer is that both patients and doctors procrastinate because the hematuria is painless. At times the hematuria is accompanied by pain but if so it is usually because of some lesion of the urinary tract (calculi, hydronephrosis, prostatism) or because of the passage of clots down the ureter. Pain described as a feeling of discomfort or as a dull ache in the loin is also fairly common in renal cancer. Rarely the pain is intense but this is due to some complicating factor and not necessarily the result of the presence of the tumor. The discovery of a tumor on physical examination is the third classical sign of renal cancer. It is found in the majority of patients, but in tumors of the upper pole it may be impossible to elicit. In other patients the signs may be indefinite if not actually misleading. Cancer of the kidney should always be considered as a possibility in cases with unexplained loss of weight, fever or anemia. Rarely symptoms caused by metastases in the lungs, humeri, spine, femurs or ribs may be the first ones complained of by some patients.

Diagnosis: The diagnosis of renal cancer is made by correlating all the facts learned from the history, physical examination, and especially those obtained from the cystoscopic and x-ray studies. These should never be omitted in a patient suspected of cancer of the urinary tract, and include ureteral catheterization and both intravenous and retrograde pyelograms. The pyelogram usually is the most valuable single aid to diagnosis but requires expert interpretation. As a rule kidney tumors give characteristic deformities of the renal pelvis which have been described as follows by Braasch¹: elongation of one or more calices or of the pelvis; secondary pyelectasis; abnormal position of the renal pelvis; and deformity of the ureteropelvic juncture and upper portion of the ureter. It should be emphasized that other conditions may give confusing deformities in the pyelogram and that early tumors of the parenchyma may not

cause deformity. Whenever the pyelogram gives rise to doubt in the diagnosis it should be repeated within a short interval.

Treatment: It is generally recognized that nephrectomy is the treatment for renal cancer. For the best results it should be done as soon as the diagnosis is made and while the tumor is confined to the kidney. In the case of papillomas of the renal pelvis the entire ureter should also be removed. Contraindications to operations are, first, massive tumors, the removal of which would endanger the life of the patient; second, poor physical condition of the patient; and third, widespread metastases. In such instances irradiation is very valuable and may cause some cases to become operable. Indeed, it is gradually becoming apparent that preoperative irradiation is making the prognosis of renal cancers more favorable.

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COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the Journal office.

Iowa Academy of Ophthalmology and Otolaryngology, November 18, Hotel Fort Des Moines, Des Moines, Iowa. Clinical demonstrations of various cases in this field of practice will be conducted. All who are interested are cordially invited to be present.

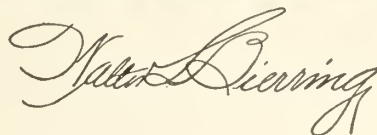
American Board of Obstetrics and Gynecology will conduct next examination on Saturday, February 5, 1938. All applications must be filed in the office of the secretary of the organization at least sixty days before the date of examination.

Pan American Medical Association, Seventh Cruise-Congress, Steamship Queen of Bermuda leaves New York for Havana, January 15, 1938.

American Association of Orthopedic Surgeons, Annual Meeting—January 16 to 20, 1938, Hotel Biltmore, Los Angeles, California.

American College of Physicians, Twenty-second Annual Sessions, April 4 to 8, 1938, New York City.

STATE DEPARTMENT OF HEALTH



TUBERCULOSIS CONTROL IN IOWA

C. K. MCCARTHY, M.D., Director
Division of Tuberculosis Control

The state of Iowa has one of the lowest death rates from tuberculosis in the United States. There are only two states enjoying a lower rate than ours. Although tuberculosis has been displaced as the chief cause of death for all age groups, it still causes more deaths in the age group from 15 to 35 years than any other disease. Should we not then join every effort to prevent our youth and young adults from being destroyed in the prime of life? We know the cause of this disease and we know how it is spread. It is, therefore, only necessary to break the chain of contact, and we will be able to drive the death rate down still further.

It was previously thought that over ninety per cent of the adult population had been infected with tuberculosis. It is now known, however, that only from twenty-five to thirty-five per cent of adults are positive to the tuberculin test, but the rate increases as age advances. The lowering infection rate is encouraging and shows that we are making progress although the rate is still much too high. Large groups of our children as seen by surveys of great numbers in the school age are shown by the Mantoux test to be free of tuberculosis.

Constant vigilance on the part of the family physician is necessary if we are to continue the progress already made. The State Department of Health in cooperation with the Iowa Tuberculosis Association is inaugurating a case-finding survey in the rural areas of the state, which is unique in that the public agency is working in conjunction with a lay organization and the fine cooperation of the medical profession. It is well known that the private physician is in the best strategic position to locate tuberculosis in its earliest stages. It is then that the disease is amenable to treatment. The private physician, therefore, is the one who should be given the necessary help in making the early diagnosis. The present plan is, therefore, aimed directly at early diagnosis. All reports of

tuberculosis and all reported deaths from tuberculosis are checked and the patients are, upon invitation of the local county medical society, visited; each person who has been in contact with this case is urged to go to his family physician for examination. The importance of early diagnosis is explained, and the individuals are told how their own physicians are well equipped and eager to examine them frequently. The importance of periodic examination is stressed and they are urged to visit their physicians and to take advice from them.

The physicians of this state are being extremely helpful in inaugurating this survey, which is so valuable to public health. Nearly twenty county medical societies have signified their willingness to cooperate in this fine work. A survey of this type, statewide in scope, has great educational value. It keeps constantly in the minds of our citizens the fact that adequate medical care is available to everyone. A survey of the state shows that practically every county has available x-ray equipment and men skilled in its use to offer the finest service to our people. This is extremely gratifying for it is a fact that many of the more populous states are not nearly so well equipped. The importance of the roentgenogram cannot be overestimated. We all know that for the first two or three years after the onset of adult type tuberculosis in children there are usually no symptoms or physical signs, and they are apparently perfectly well. Therefore, the tuberculin test and roentgenogram are our only means of making a diagnosis. This is especially important in children because even with prolonged bed rest and collapse therapy, which is increasing in use among children, the prognosis remains guarded.

The State Department of Health will furnish tuberculin material for the Mantoux test without charge to physicians; and we would urge the increasing use of this valuable procedure. A negative test in adults is sometimes very important in the differential diagnosis. The Iowa Tuberculosis Association with its well organized Seal Sale force is helping to make possible a tuberculosis survey

which will be far-reaching in its effects. It is a well established fact that a public agency working in conjunction with the medical profession creates a force which will overcome communicable diseases of all descriptions if carried out vigorously. We are now able to offer in the Cooperative Tuberculosis Survey a tremendously powerful weapon in the fight against this dreaded disease.

NOTES FROM POLIOMYELITIS CASE RECORDS

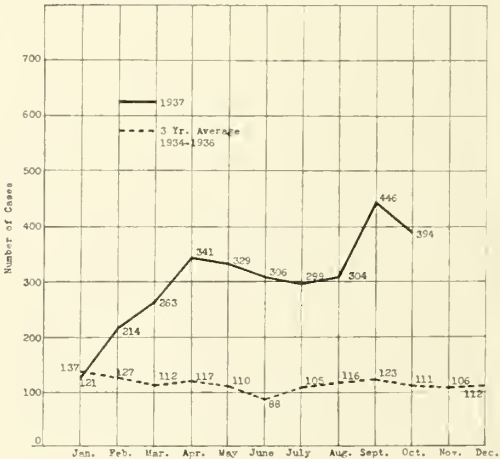
Two hundred and eighteen cases of poliomyelitis were reported to the Iowa State Department of Health for the first ten months of 1937. Prior to this year, unusual prevalence of poliomyelitis had not been experienced since 1930, when 222 cases were reported and in 1931 when reported cases numbered 167. It is apparent that the number of reported cases for 1937 will exceed the total in 1930. Records for the period 1924 to 1936 inclusive, reveal 1,145 cases of poliomyelitis and 251 deaths, or one death for every 4.5 cases reported.

During the period from July 15 to October 26, 1937, convalescent poliomyelitis serum amounting to 18,330 cubic centimeters was distributed by the Iowa State Department of Health in response to 158 requests. Thus far, eighty-four poliomyelitis case records have been completed and returned by attending physicians. A study of these records shows that fifty-eight, or 70 per cent of the patients concerned, received convalescent serum. Thirty-three, (57 per cent) of the fifty-eight patients who received serum did not develop paralysis. In some of the twenty-five who developed paralysis, this condition was present at the time the case was first reported and before serum was administered. The records indicate that among twenty-six patients who did not receive serum, twenty-three (88 per cent) had paralysis. A spinal fluid examination was made on forty-seven

(56 per cent) of the eighty-four patients, for whom case records are at hand.

The case records indicate further than eleven deaths occurred in this series of cases. Five of the cases which terminated fatally received no serum. Of the six remaining deaths, one patient received 200 cubic centimeters on the third day of illness, a second received 140 cubic centimeters on the third to fifth days, a third was given 100 cubic centimeters on the fourth to ninth days, a fourth had 80 cubic centimeters on the twelfth to fourteenth days, and the other two, a total of 25 to 20 cubic centimeters respectively. Only one physician reported an untoward reaction from the serum, his statement reading "chill after first injection due to saline solution. None with second dose." Forty-eight of the 58 physicians who used serum, stated that results were good, as noted by drop in temperature, or otherwise. Several physicians expressed the opinion that the serum was of definite value in preventing paralysis.

REPORTING SYPHILIS IN IOWA
Comparison of reported cases for first ten months of 1937,
with the three-year average for 1934-1936



PREVALENCE OF DISEASE

	September, 1937	August, 1937	September, 1936	Most Cases Reported From
Diphtheria	8	5	13	Black Hawk
Scarlet Fever	133	71	93	Polk, Black Hawk, Woodbury
Typhoid Fever	20	22	15	(For State)
Smallpox	8	16	11	Audubon, Franklin
Measles	7	20	9	Linn, Lyon
Whooping Cough	161	130	41	Dubuque, Poweshiek
Cerebrospinal Meningitis	2	1	2	Marion, Woodbury
Chickenpox	11	10	11	Montgomery, Des Moines
Mumps	27	8	17	Lyon, Washington, Woodbury
Poliomyelitis	118	37	24	(For State)
Tuberculosis	52	44	59	(For State)
Undulant Fever	11	14	12	(For State)
Gonorrhea	284	238	127	(For State)
Syphilis	446	304	187	(For State)

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DEATHS FROM ELIXIR OF SULFANILAMIDE

The unfortunate tragic deaths of some sixty patients from the use of elixir of sulfanilamide-Massengill should constitute a never to be forgotten lesson to the practicing physician. As described in the October 23 issue of the *Journal of the American Medical Association*, the preparation consisted of 40 grains of sulfanilamide to a fluid-ounce of a menstruum containing 72 per cent diethylene glycol. The exact nature of the toxic agent is not yet known but it seems clear that sulfanilamide was not the responsible agent. Post-mortem examinations have revealed tubular nephrosis, peripheral necrosis of the liver, and an accumulation of fluid in the serous cavities.

The intelligent physician will view this catastrophe from three distinct angles, and it is earnestly hoped that the lessons to be learned will not be ignored. It is too late to say this tragedy could have been prevented, true as that statement is. However, a repetition of the incident, in any form of therapy whatsoever, would be completely unnecessary and inexcusable. In the first place the profession has at hand several reliable sources of information about drugs; namely, the United States Pharmacopeia, the National Formulary, and the Council on Pharmacy and Chemistry of the American Medical Association. The last named body yearly issues a volume on New and Nonofficial Remedies, in which are described various new drugs and therapeutic measures. When preparations are listed as "accepted" by this Council, one can be sure they have been examined carefully, and that there is enough clinical evidence to indicate when the products can be used with safety. Therefore, the use of unstandardized and unac-

cepted drugs is not only extremely hazardous, as exemplified in the recent disaster, but altogether unnecessary in view of the fact that the Council on Pharmacy and Chemistry exists for the purpose of evaluating these newer products.

In the second place, deaths have occurred from the promiscuous use of drugs other than elixir of sulfanilamide; namely, dinitrophenol, cinchophen, various glandular preparations, the old-fashioned cathartic pill containing strychnine, etc. The repetition of such tragic occurrences emphasizes the need for a new set of regulations under the National Food and Drug Act. The public has the right to be protected by legislation, from the distribution of highly potent drugs, just as it is from the sale of narcotics. The only solution for such a situation is the enactment of a Federal Food and Drug Act which will require the licensing of all new and potent drugs. Considerable discussion of this problem has taken place in recent sessions of Congress, and it is to be hoped that some definite legislation will be enacted soon as a result of this most recent violation.

The third aspect of the situation is that various pharmaceutical houses are represented by detail men whose duty it is to sell a specific line of products, vying with their competitors in the presentation of a more effective or attractive panacea. Some of these preparations are meritorious; others are of questionable value. The endeavor of these representatives to direct the therapeutic measures of the practicing physician is fundamentally unsound and detrimental, both to the patient and the physician.

Orthodox therapy does not necessarily presuppose empiricism or the failure to accept the newer methods of treatment; it does, however, definitely call for a rational therapy based on sound physiologic and pharmacologic principles. We feel that the individual practitioner can best accomplish this purpose by using only those standardized and accepted therapeutic agents which have been thoroughly examined and tested by specially trained physicists and chemists. Only in this way can the physician be assured of the safety, potency, reactions and possible dangers of any certain drug.

VARIOUS MEDICAL RELIEF PLANS IN IOWA*

With the withdrawal of the IERA from all except a few of the counties in Iowa, and with the time drawing near for plans to be made for 1938, many of the county medical societies are studying

* Editor's Note—This editorial has been prepared by Dr. Ernest E. Shaw of Indianola, member of the Medical Economics Committee, who has been given the responsibility of furnishing suitable material from the Committee's files for the JOURNAL.

various methods for the handling of the medical relief problem. A few years ago the Medical Economics Committee of the Iowa State Medical Society surveyed the various plans in use, and drew up a suggested form of county contract for relief work. With the advent of the depression, and the inability of many counties to finance their own relief work, it was necessary for the state to assist in this work, and thus the IERA plan was inaugurated.

This plan has many good features; the free choice of a physician by the patient, the determination of indigency by trained workers, and the supervision of medical services and fees by a committee composed of members of the society itself. However, there were three features which made the plan unsatisfactory. The horizontal cut, applied after a certain maximum was reached, produced much dissatisfaction. The inadequacy of the maximum allotment of \$1.50 per family per month made a cut necessary in many counties a great deal of the time. If the maximum allowance had been \$2.00 or \$2.50 per family per month, the horizontal cut would seldom have been necessary, and the plan might have continued to function satisfactorily. However, it must be remembered in this connection that the available funds at that time would allow only the stipulated amount of \$1.50 per family per month. A third undesirable feature of the plan was the fact that the funds were not accumulative; that is, funds could not be carried from one month to another so that a heavy load during any particular month might be taken care of by funds carried from months with lighter relief burdens.

With improvement of conditions to such an extent that all except twenty-nine counties were removed from the state medical aid list on October 1, it has become necessary to make new plans immediately for the care of the indigent sick. In response to a letter sent out by the Secretary of the State Society, information has been secured as to the present method of handling medical relief in all except a few counties of the state. These plans resolve themselves into four general groups: first, lump sum contracts; second, contracts with the county, based on a fee bill; third, charges to the county for medical relief, on a reduced schedule but with no definite contract; and fourth, the IERA plan. Two or three counties have a county physician and four have no definite plan.

The lump sum contract plan is used in about twenty counties, with sums ranging from \$4,000 to \$20,000. These amounts are paid to the county society in monthly installments, and the members

are free to develop their own methods of providing the services required. Services are usually provided on a special fee basis, and the bills are turned in each month to be audited by a committee of the members. This committee, after auditing the bills, pays about 50 per cent of the amount allowed each month, any balance being retained in the treasury until the end of the year, at which time it is prorated to the members according to the amount of work done by each. Such a plan leaves the entire control in the hands of the medical profession and has proved quite satisfactory. In the final analysis it amounts to the same thing as having a reduced fee bill, with a horizontal cut after a fixed maximum has been reached. The advantage over the IERA plan is that funds not used in any given month are retained and may be used in some other month when the medical load is higher.

Sixteen county societies have contracts with the county boards of supervisors, under which medical services to the indigent are paid for according to a reduced fee schedule. The usual fee is from 50 to 75 per cent of the standard fee bill recommended by the Medical Economics Committee. This plan seems satisfactory except in those contracts which have an additional clause providing that if the total exceeds a certain sum, further reductions may be made. Here again we have the situation that if an epidemic should occur, or if several major medical or surgical cases must be cared for in a given month, the medical profession suffers the loss and pays the costs through reduced fees.

Twenty-nine county societies work under a reduced fee bill, without having any definite contract with the supervisors. Eight of these counties are using the fee bill of the IERA, but have succeeded in having the horizontal cut eliminated. With only one exception (where calls are \$1, mileage 12½c, and obstetric cases, \$10 without mileage), these counties have the same reduction from the standard fee schedule as do the counties where a contract has been entered into. None of these counties reports a maximum limit to services and so are able to receive fairly adequate remuneration for all work done.

The counties still under the IERA plan are there because of the financial inability of the counties to raise funds to cover medical care. Most of these counties are in the southern part of the state where the drought has caused three or four non-productive years in succession. A few of these counties report satisfactory experiences, but most of them are dissatisfied and desire to change

at the first opportunity. If the allotment could be raised to \$2 per family per month, and if unused funds could be accumulative, the most serious objections would be overcome.

All of these plans have certain common features. The agreement is not made by the society as such, but must be signed by the individual members who are willing to participate. Hospitalization is not included, since it is furnished by agencies other than the medical profession. Provisions for glasses, trusses, serums, arsenicals and similar items must be made from other funds. Major surgery, except of an emergency nature, must be authorized by a committee from the society. It is necessary to have the bills audited by a committee of the society, since only the medical man is competent to judge the reasonableness of charges for care of the various types of medical cases.

The setting up of a new plan for the care of the indigent sick in any county requires careful study in order to make adequate provision for all possible situations which might later arise to cause dissatisfaction on the part of the society or the county officials. The society itself and the individual physicians must be in agreement as to the proposed plan, and each man must be willing to carry his share of the load. The individual must be willing to sacrifice, if necessary, some of his own opinions and desires for the good of the society in its dealings with the public officials. Evidence of cooperation on the part of the medical profession will definitely improve the attitude of the public toward organized medicine. The county officials must be able to see that the physician is worthy of a fee for his services to the public, and must be willing to provide a fee that is commensurate with the value of those services. Only when such cooperation exists will any plan function properly; only when the plan functions properly will the indigent receive adequate medical care.

As new contracts are entered into between the county medical societies and the county supervisors it must be kept in mind that these are no longer emergency measures. During the past few years the medical profession has been ready and willing to give of its services as a contribution to the recovery of the state; but, now that recovery is to some extent accomplished and an emergency has ceased to exist, contracts should be established on a basis of adequate pay by society for adequate services rendered to those unfortunate individuals who must accept such services from society.

V. THE TREATMENT OF CARDIAC ARRHYTHMIAS*

Cardiac arrhythmias which may require special treatment are: auricular fibrillation and its rare relative, auricular flutter; paroxysmal tachycardias; extrasystoles; heart block; and ventricular fibrillation.

Auricular fibrillation and auricular flutter are usually associated with significant organic lesions of the heart, but also occur, often in paroxysmal forms, either as a part of the hyperthyroid syndrome or as a sequela to it. Auricular fibrillation also occurs unaccompanied by perceptible organic lesions of the heart in about ten per cent of the cases. When auricular fibrillation or flutter is present with organic heart trouble, or with signs and symptoms of congestive heart failure, the management of the arrhythmia is the same as the treatment of the failing heart. This will be discussed in a subsequent chapter. The present discussion deals only with the arrhythmia associated with hyperthyroidism and the "functional" types.

The exact cause of fibrillation is not known. Some authors believe that the arrhythmia is due to auricular distention, but auricular fibrillation occurs without detectable dilatation of the upper heart chambers. The irregularity is, as a rule, easily detected by simple means. The palpating finger at the wrist feels that the beats are of different strength and are irregularly spaced. More of these irregular beats can be heard by listening at the apex than can be felt at the wrist (pulse deficit). By placing the blood pressure cuff around the arm and raising the pressure to a point midway between the individual's diastolic and systolic levels, the oscillating mercury column will plainly tell the story. Of course, the electrocardiographic tracings will confirm the diagnosis if such a confirmation is needed.

Thyroidectomy is usually sufficient to stop the auricular fibrillation or flutter associated with hyperactivity of the thyroid gland. If the arrhythmias recur after the elimination of hyperthyroidism they should be dealt with in the same manner as are the functional types. The treatment of choice for these is the proper administration of quinidine sulphate. This drug was introduced into medicine in 1918 by Frey.¹ The drug soon became popular and for a time was used by many physicians for the control of any sort of fibrillation. This promiscuous use of the drug led to a large number of sudden fatalities

* Editor's Note—This is the fifth article in this series of editorials prepared by Dr. Daniel J. Glomset on modern cardiac therapy. Earlier issues of the JOURNAL carried Parts I, II, III and IV.

which must be laid directly or indirectly to the employment of the drug. At the present time, the early enthusiasm has subsided, the indications and the contraindications for the use of quinidine have become clearer, its field of usefulness has been sharply limited, and its administration has become much safer. Quinidine is an isomer of quinine. It seems to be more efficient as a restorer of normal rhythm than are other quinine compounds and is perhaps a bit safer. It acts like quinine by depressing the irritability of all cardiac muscle and is, therefore, the drug of choice in functional arrhythmias. It, like other quinine compounds, is a protoplasmic poison to which a certain number of persons have a decided idiosyncrasy. When given in large doses, cinchonism always develops. The deaths which occurred during the time when quinidine was tried in all cases of auricular fibrillation were for the most part due to emboli loosened from the endocardium when normal rhythm was resumed. However, some of the deaths were undoubtedly caused by the drug acting as a "last straw" to the damaged myocardium. If the use of quinidine is limited to persons having no evidence of heart failure and having no demonstrable myocardial lesions, and if it is administered in the manner to be described, the danger of the drug is no greater than that of any other potent drug.

The patient is first put to bed in a hospital or at home under the care of a competent nurse. In the afternoon of the first day, he is given two capsules of quinidine sulphate each containing 0.15 gram ($2\frac{1}{2}$ grains) two hours apart. If there are no untoward signs or symptoms quinidine is given the next morning in 0.3 gram (5 grains) doses three hours apart until the rhythm becomes normal or until mild symptoms of quinism occur. The drug is then discontinued and after an appropriate rest the treatment is tried a second or even a third time. If quinidine stops the fibrillation, it should be continued in small doses (0.15 gram three times a day) for two weeks. When quinidine fails, as it sometimes does, digitalis is administered in small doses (90 milligrams or $1\frac{1}{2}$ grains of the standardized leaf) three times a day until the rate is within normal range. The drug is then continued (90 milligrams per day or less) until the rhythm remains slow without any treatment.

Paroxysmal auricular tachycardia is a curious, not infrequent arrhythmia. It is rarely associated with organic lesions in the heart. The attack comes and goes at irregular periods perhaps for decades. There are no known causes. It is characterized by the sudden onset of a rapid perfectly regular rhythm (120/200) and the equally

abrupt resumption of the normal rate. The attack lasts from a few seconds to three or even four days, although the majority are brief. The short attacks may occur many times each day. Those which last for hours and days lead to acute congestive failure, and even to unconsciousness. The severe attacks cause a great deal of apprehension both to the sufferer and his family. The electrocardiographic tracings show an absence of P waves and normal ventricular complexes. Intelligent patients have discovered many ways of stopping the attack; for example, by swallowing, sneezing, coughing, holding the breath, stooping over, or pulling the tongue; and the family doctor has stopped many severe attacks by giving a dose of morphine. The simplest method of stopping an attack is by applying firm digital pressure just below the angle of the jaw near the larynx (over the carotid sinus), on the right side first, and if this fails, on both sides. This, as Nathanson² has shown, is a powerful method of slowing down the rate of the heart, and is usually successful. If not, pressure upon the eyeballs until the patient "sees stars" may be tried. When this fails one may try a slow, intravenous administration of 0.2 to 0.3 gram (3 to 5 grains) of quinidine sulphate in physiologic salt solution, or a hypodermic administration of 30 milligrams ($1\frac{1}{2}$ grains) of mechoilin³ in sterile water. If this does not produce flushing of the face, even after rubbing the site of injection, the dose may be repeated. After the attack has been stopped, the arrhythmia may be prevented by giving orally 0.15 gram ($2\frac{1}{2}$ grains) of quinidine sulphate three or four times a day. As the tachycardia is brought under control, the dose of the drug may be lessened.

Extrasystoles, a most frequent arrhythmia, rarely need any other treatment from the physician than reassurance when the heart's antics disturb the patient. They are seldom so numerous as to fatigue the organ. I have not found any evidence in support of the notion that the auricular ectopic beats are of more significance than their ventricular relatives. The diagnosis is made by detecting the extra beat and the pause following it. The electrocardiogram clearly shows not only the nature, but also the origin of the arrhythmia. Small doses of quinidine sulphate, 0.15 gram ($2\frac{1}{2}$ grains), two to four times a day will control the ectopic beats when they are bothersome.

The rapid heart action discussed so far (auricular flutter, fibrillation, and paroxysmal tachycardia) are all of auricular origin. They cause varying degrees of failure of the auricular myocardium but interfere relatively little with the pumping action of the heart and then only indirectly, by producing overactivity of the ventricles.

However, when tachycardia and fibrillation originate in the ventricles, serious heart failure ensues almost immediately. Fortunately, paroxysmal ventricular tachycardia is a rare condition. When the rapid rate consists of beats of even strength, slightly irregularly spaced, the condition may be suspected, and the electrocardiogram shows the ventricular complexes to be of the type seen in extrasystoles of ventricular origin. The treatment is quinidine sulphate. Levine⁴ recommends large doses, 1.5 grams (22½ grains), by mouth every few hours till the arrhythmia stops, and then one gram four or five times a day for several days. Christian⁵ suggests giving the first dose intravenously using 0.2 to 0.3 gram (3 to 5 grains). If mechoin is at hand, it may be given intravenously in doses of 30 milligrams (½ grain) as directed under the treatment of auricular tachycardia. Ventricular fibrillation is the twitchings of the dying heart. Levine claims to have brought the rhythm back to normal by the use of large doses of quinidine intravenously.

The only form of heart block which needs attention here is the complete auriculoventricular disassociation. This should be suspected when a regular pulse beats below 50 beats per minute. It is almost certain to be present when the pulse is below 40 beats per minute, and it does not require any form of treatment except "to make haste slowly" until the pulse goes below 30 per minute. The electrocardiogram tells the whole story. The cerebral symptoms, which, in fully developed form, constitute the Adams-Stokes syndrome, begin to manifest themselves in the form of dizziness, weakness, and transient loss of consciousness, when the pulse rate approaches 20 per minute. During the period of unconsciousness the rate varies from 16 to 24. At first, the symptoms come on only after exertion; later they occur spontaneously.

Several years ago, barium chloride in doses of 30 milligrams (½ grain) administered three or four times a day were given for this condition. Barium chloride is a toxic drug and in my opinion, it is not a safe one. When only slight symptoms of the Adams-Stokes type are present the patient's activities should be further restricted and ephedrine sulphate, 20 milligrams (three-eighths of a grain), may be tried three or four times a day; but the drug of choice in severe cases is epinephrine chloride 0.2 to 1.0 cubic centimeter of 1-1000 solution given subcutaneously as many times a day as is necessary to prevent the attacks.

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RADIO BROADCASTS OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association and the National Broadcasting Company entered their fifth season of weekly health broadcasts on Wednesday, October 13. The first two years were devoted to health talks, and the last two seasons have been characterized by dramatized health messages. This year the broadcasts have been designed to appeal especially to students and teachers in the junior and senior high schools of the nation. It was felt that the programs could be made extremely helpful in emphasizing, enriching and augmenting the health teaching in these grades. Broadcasts are to be made during school hours, each Wednesday afternoon, from 1:00 to 1:30, central standard time, and thus may be utilized directly by those schools which have adequate equipment. The salute this year, then, is "To America's Schools, YOUR HEALTH!"

An interesting feature in this connection is that any station may or may not carry this program. Neither the American Medical Association nor the National Broadcasting Company has any control over local broadcasting, since this is a non-commercial program. Therefore, evidence of local interest may have influence with station managements. The three stations most conveniently located for residents of Iowa are KSTP at Minneapolis-St. Paul, WHO at Des Moines, and WOW at Omaha. Topics for November and December are as follows:

- November 10—Playing for Fun: health values and hazards in sports and recreation.
- November 17—Fresh Air, Fresh Clothes and Fresh Skin: ventilation; clothing; bathing.
- November 24—Rest, Relaxation, Refreshment: all work and no play, or all play and no rest—bad for health.
- December 1—Tuberculosis, Foe of Youth: how bad habits of hygiene and unwise living, plus infection, favor tuberculosis.
- December 8—It Takes All Good Foods: a well rounded diet and how to get it.
- December 15—Milk from Farm to Table: the production, transportation, pasteurization and home care of milk; its place in the diet.
- December 22—Vitamins, Minerals and Common Sense: more about a balanced diet in special relation to minerals and vitamins.
- December 29—Dietary Fads: facts versus fallacies in relation to false notions about diet.

Red Cross Help to the Victims of the Great Flood

In nearly every county in the United States there is a chapter or branch of the American Red Cross which is prepared to give immediate help if disaster strikes, and which carries on one or more of the several year round service programs of the organization.

When the Ohio and Mississippi Rivers overflowed their banks last January, creating the greatest flood in American history, the feeding and housing of the more than a million refugees became the problem of the Red Cross. Within the space of several days these families were forced to flee their homes. School houses, churches and public buildings of all kinds were used as refugee centers by the Red Cross. In addition to such permanent buildings as were used to shelter flood victims, numerous tent and barrack camps were set up in places where no adequate housing facilities were available. In feeding so huge an influx of refugees the Red Cross obtained food supplies from a score of different states, thousands of tons of fresh and canned food, both bought and donated supplies. Food was sent in to the affected areas by train, boat, truck, and, in some isolated places, by plane.

Providing adequate medical and nursing care for ill flood victims and guarding against epidemics among the many refugees were important items in the Red Cross disaster relief job last winter. Red Cross doctors and nurses, working in conjunction with local physicians and health authorities, did yeoman service in the 300 emergency field hospitals and 1,000 centers and camps where refugees were temporarily cared for by the Red Cross. It is due largely to their splendid work that no serious outbreak of communicable disease occurred. For the most part the Red Cross relied upon the cooperation of local physicians in the flood areas and the help of federal and state health authorities in its program of immunization against typhoid and in safeguarding the health of refugees. During the height of the emergency more than 1,000 doctors and 3,600 nurses were on the Red Cross staff in the twelve flood-affected states and hundreds of physicians served for short periods of time on a volunteer basis. Approximately 100,000 families in the path of the flood were without the resources to repair their homes or to replace ruined furniture. These turned to the Red Cross for help in rehabilitation. Each family was registered, its needs and losses were studied by trained workers and Red Cross awards were made to those families who needed this help. To meet this



great need the Red Cross appealed to the American people for flood relief funds and a most generous response, totaling a little more than \$25,000,000, was received in a short time. Large as was the amount of this fund, it was all needed and used to meet the emergency and rehabilitation needs of the flood-affected families.

Briefly, the Red Cross rehabilitation program following a disaster consists of the following steps. Families who feel they need help to repair their homes and to replace necessary household goods and clothing are registered by the Red Cross. A trained family worker visits the family, investigates their resources, needs and losses, and makes a report to an advisory committee composed of local citizens, together with a recommendation based upon her experience in family work, as to the extent of help she believes the family requires. Awards are given to families whom the advisory committees deem need such help. On receiving notification of an award the beneficiary family does its shopping with local merchants and contractors of their own choosing, paying for merchandise and service with disbursing orders issued by the Red Cross, which in turn pays the store or contractor. This policy keeps the money spent in the normal channels of trade and is of assistance to local merchants and contractors, who may have severe disaster business losses. Since the money spent for rehabilitation work by the Red Cross consists of gifts of the American people to be used to relieve distress, the organization must give its aid on the basis of need, not loss. Families with adequate resources to reestablish themselves are expected to do so without Red Cross assistance.

Disaster relief work, however, is only one phase of Red Cross work, which includes public health nursing, assistance to war disabled veterans and men in the armed forces of our country and their dependents, instruction in first aid and water life saving, highway first aid, instruction in home care of the sick, the making of garments for needy families, producing books in Braille for the blind, and a home and farm accident prevention program. These several programs are carried on by the Red Cross chapters and branches, located in practically every county in the United States, and derive their support from the annual Red Cross Roll Call, as does the national work of the organization. Everyone can have a part in disaster relief and all other Red Cross work by joining a local chapter during the National Roll Call, held from November 11 to 25.

SPEAKERS BUREAU ACTIVITIES

"REFRESHER" COURSES

The Speakers Bureau will present its third series of "refresher" courses this fall starting November 1. The "refresher" courses are presented through the cooperation of the College of Medicine of the State University of Iowa, the Iowa Pediatric Club, the Central Association of Obstetricians and Gynecologists, and the State Department of Health. This fall the courses will be held at Osage and Nevada. Two lectures will be given at each meeting, one on obstetrics and one on pediatrics, over a period of five weeks, making a total of ten lectures in this series. The fee will be \$2 only, which is to cover the cost of mimeographing notes of the lectures for distribution to those attending. All physicians in the state are eligible to register for the courses and are cordially invited to attend. Physicians in the vicinity of either Osage or Nevada are especially urged to participate. The complete schedules are as follows:

Cleveland Hotel—Osage, Iowa

Nov. 1 Obstetric Lecture

J. D. Randall, M.D., Iowa City
The technic of a prenatal examination
(demonstration)
Obstetric syphilis
Dental care during pregnancy (O. E.
Hoffmann, D.D.S.)

Pediatric Lecture

G. E. Harrison, M.D., Mason City
Causes of Cyanosis and of Jaundice in
the Newborn

Nov. 8 Obstetric Lecture

Roy I. Theisen, M.D., Dubuque
Delivery Technics (demonstration of set-
up in home)
Asphyxia neonatorum
Birth Injuries of the Newborn

Pediatric Lecture

P. C. Jeans, M.D., Iowa City
Serum Therapy in Acute Infectious Dis-
eases

Nov. 15 Obstetric Lecture

William F. Mengert, M.D., Iowa City
Postpartum care of the mother (demon-
stration)
Care of the normal baby
Care of the premature infant

Pediatric Lecture

J. M. Hayek, M.D., Des Moines
Demonstration of Serologic Tests

Nov. 22 Obstetric Lecture

C. W. Seibert, M.D., Waterloo
Obstetric procedures (manikin demon-
stration); forceps, breech extraction,
version

Pediatric Lecture: Acute Surgical Condi- tions in the Abdomen

Pyloric Stenosis

G. E. Harrison, M.D., Mason City
Intussusception, Appendicitis, Periton-
itis G. M. Crabb, M.D., Mason City

Nov. 29 Obstetric Lecture

E. D. Plass, M.D., Iowa City
Vaginal infections during pregnancy,
gonococcus, Trichomonas, yeasts. Man-
agement of late postpartum complica-
tions; cervical erosion, and eversion,
uterine retroversion, etc.

Pediatric Lecture

P. C. Jeans, M.D., Iowa City
Diarrhea in Infancy and Childhood and
its Management

Hours

5:00-7:00 p. m. Obstetric Lecture
7:00-8:00 p. m. Dinner
8:00-9:30 p. m. Pediatric Lecture

Story Hotel—Nevada, Iowa

Nov. 2 Obstetric Lecture

J. D. Randall, M.D., Iowa City
The technic of a prenatal examination
(demonstration)
Obstetric syphilis
Dental care during pregnancy (O. E.
Hoffman, D.D.S.)

Pediatric Lecture

G. E. Harrison, M.D., Mason City
Causes of Cyanosis and Jaundice in the
Newborn

Nov. 9 Obstetric Lecture

Roy I. Theisen, M.D., Dubuque
Delivery Technics (demonstration of set-
up in home)
Asphyxia neonatorum
Birth injuries of the newborn

Pediatric Lecture

P. C. Jeans, M.D., Iowa City
Serum Therapy in Infectious Diseases

Nov. 16 Obstetric Lecture

William F. Mengert, M.D., Iowa City
Postpartum care of the mother (demonstration)

Care of the normal baby

Care of the premature infant

Pediatric Lecture

J. M. Hayek, M.D., Des Moines
Demonstration of Serologic Tests

Nov. 23 Obstetric Lecture

C. W. Seibert, M.D., Waterloo
Obstetric Procedures (manikin demonstration); forceps, breech extraction, version.

Pediatric Lecture: Acute Surgical Conditions in the Abdomen
Diagnosis and Symptoms

James E. Dyson, M.D., Des Moines

Surgery

Lester D. Powell, M.D., Des Moines

Nov. 30 Obstetric Lecture

E. D. Plass, M.D., Iowa City
Vaginal infections during pregnancy, gonococcus, Trichomonas, yeasts. Management of late postpartum complications; cervical erosion and eversion, uterine retroversion, etc.

Pediatric Lecture

P. C. Jeans, M.D., Iowa City
Diarrhea in Infancy and Childhood and its Management

Hours

5:00-7:00 p. m. Obstetric Lecture

7:00-8:00 p. m. Dinner

8:00-9:30 p. m. Pediatric Lecture

COUNTY SOCIETY PROJECTS

The Speakers Bureau feels that the county societies will be interested in the second annual series of lectures being offered by the Crawford County Medical Society to all of its high school students. The course is being conducted on the same plan followed last year, which consisted of nine one hour lectures presented during the course of the school year by Crawford County physicians. This year the subject matter of these public health lectures has been changed and the suggestions of the various schools as to topics have been adopted by the physicians in preparing their material for the course.

The Crawford County Medical Society has gained wide recognition not only in the state and nation, but internationally, by presenting this course of public health lectures to its high school student body, and it

is the hope of the association that it may continue each year hereafter to make these lectures available to their students.

The program for this year's course is as follows:

"Infection Resulting from Injuries"

Dr. Ralph E. Haskell, CCC physician

"Diseases and Care of the Ear, Nose and Throat"

Dr. Simon A. Huber, Charter Oak

"Venereal Diseases"

Dr. E. J. Maire, Vail

"Diseases and Care of the Skin"

Dr. Edward M. Mark, Manilla

"Diseases, Defects and Care of the Eyes"

Dr. F. N. Rowe, Denison

"The Care of the Heart"

Dr. C. L. Sievers, Denison

"Tuberculosis in High School Age"

Dr. T. L. Vineyard, Dow City

"Infectious Diseases of the Respiratory Tract Other Than Tuberculosis"

Dr. Dora Kielhorn Zaeske, Charter Oak

"Epidemic Infections of the Central Nervous System" (Infantile Paralysis and Spinal Meningitis)

Dr. J. James Duffy, Denison

OCTOBER ACTIVITIES

During the month of October the Speakers Bureau presented programs before ten Women's Clubs, six Parent-Teacher Associations, eight service clubs, ten college audiences, and four county medical societies, thirty-eight meetings in all. In addition to this, the regular postgraduate work was in progress, with forty in attendance at Sheldon, seventy-five at Waterloo, thirty-five at Algona, and thirty at Cedar Rapids. Four radio talks were given on the usual Speakers Bureau program, and two were especially prepared and delivered for the Iowa Federation of Women's Clubs. Three talks were given to social workers at district meetings.

RADIO SCHEDULE

WOI and WSUI—Wednesdays at 4:00 p. m.

Nov. 3 Some Aspects of Fever Therapy, W. D. Paul, M.D.

Nov. 10 The Tonsil Problem, E. P. Weih, M.D.

Nov. 17 Boils and Carbuncles, Wendell Willett, M.D.

Nov. 24 Tuberculin Testing Program, C. K. McCarthy, M.D.

Dec. 1 Colitis, C. A. Trueblood, M.D.

WOMAN'S AUXILIARY NEWS

MRS. FRED MOORE, *Chairman of Press and Publicity Committee*
3407 Lincoln Place Drive, Des Moines

President—MRS. S. E. LINCOLN, 2220 East Thirty-second Street, Des Moines

Secretary—MRS. JAY C. DECKER, 722 Thirty-sixth Street, Sioux City

Treasurer—MRS. WILLIAM R. HORNADAY, 3011 High Street, Des Moines

PROGRAM SUGGESTIONS FOR COUNTY MEDICAL AUXILIARIES

*Prepared by State Educational
Program Committee*

I. Heart Disease. Cause, prevention, care, statistics.

References: "Healthy Hearts", *Hygeia* reprint, 16 pages, fifteen cents; "Give Your Heart a Chance", Metropolitan Insurance Company, gratis. Statistics: United States Census, Iowa Health Department. Further information, American Heart Association, 450 7th Avenue, New York. Valuable articles in *Ladies Home Journal*, June, 1937, issue.

II. No country has ever attained the standard of health for the individual and the community that exists today in America under the system of the private practice of medicine. Do not fail to review:

Senator Lewis's address to the A. M. A. A. M. A. *Journal*, June 26, 1937, p. 2221. A. M. A. official action on birth control. A. M. A. *Journal*, June 5, June 26, July 14, 1937. Importance of Basic Science Laws. Secure a copy from the central office, 505 Bankers Trust Building, Des Moines, Iowa. Sterilization Laws in United States.

III. Rise of Public Health; National and State. The present public health programs in Iowa and your county.

References: Last Report of Surgeon General, Public Library; JOURNAL OF THE IOWA STATE MEDICAL SOCIETY; State Department of Health Bulletins; Miss Margaret Van Ackeren, Asst. Director of Public Health Nursing for further material and promotion of Public Health Programs.

IV. Women in Science and Medicine.

Dr. Maud Slye (pathologist); An authority on heredity in cancer. Has bred over twenty generations of mice; breeding in and breeding out cancer in different generations.

Reference: Bernard Jaffe; *Outpost of Science*, Time, 28:24, August 31, 1936; *Readers Digest*, 28:77, March, 1936.

Dr. Mary Elizabeth Bass; Tulane University, New Orleans; A teacher of pathology and bacteriology in Tulane University which did not open its doors to women.

Dr. Mary Schwartz Rose; an authority on nutrition and food chemistry in Columbia University in New York City,

Dr. Gladys (Henry) Dick; famous the world over for her work on the Dick Test in Scarlet Fever.

References: *Parents Magazine*, 5:20, May 30. *Harpers Magazine* 150:107.

*Dr. Caroline A. Chandler; research work in meningitis strains of the influenza bacillus, carried on with the aid of Lena Lake Forrest Fellowship funds.

*Dr. Sara E. Braham; working on meningitis serum.

*Dr. Florence Seibert; has bettered tuberculosis tests.

*Dr. Lucy Porter Sutton; mitigated Saint Vitus Dance.

Dr. Sara Josephine Baker; pediatrician.

References: *Century* 114:342, *Who's Who in America* 1936-1937; *Survey*, 48-108, National Education Association Proceedings, 1916-752.

Dr. Bertha Van Hooser, Chicago; gynecologist and obstetrician.

References: *Who's Who in America*, 1936-1937; *Time*, April 24, 1933; *Women Doctors*.

†Dr. Mabel C. Elliott; served as medical director of the Near East Relief.

†Dr. Mary Griscom; medical missionary.

†Dr. Clara Swain; first woman medical missionary.

V. Personal Benefit.

"Worry"; *Hygeia*.

"Watch Your Diet"; *Hygeia* reprint, 8 pages, ten cents.

"Rules of the Game" and "Adults"; *Hygeia* reprint, fifteen cents.

"Effect of Teeth on Facial Expression"; *Hygeia* reprint, five cents.

"Posture and Gait"; *Hygeia* reprint, eight cents.

"Skin in Health and Disease"; *Hygeia*.

* Reference: *Independent Woman*, December, 1936.

† Reference: *Century* 114:343.

The Committee further recommends: first, that one meeting each year be given to the study of the auxiliary constitution, the aim of the National Society, and the annual reports of the national and state organizations; second, that all auxiliaries actively participate in the program on syphilis, tuberculosis and cancer control; third, that each auxiliary do some Christmas charity work as a group; and fourth, that you support the "Health Essay Contest" which is a state project. Write Mrs. W. A. Seidler, Jamaica, Iowa, for information.

In addition we recommend that all groups ask to be placed on the mailing list of State Department of Health to receive their weekly bulletins; also, that you place your name on the mailing list to receive a "weekly list of selected United States government publications" for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C. "Healthy Happy Womanhood" for girls, and "Keeping Fit" for boys, are pamphlets you would enjoy giving to boy's and girl's groups. "Health Publications" will be valuable to you. Be sure your library has "Health Books, New and Old" by Dr. Fishbein, published by the American Library Association, Chicago. The National Society and the American Medical Association ask your support of the weekly "High School Health Broadcasts", each Wednesday from 1:00 to 1:30 p. m., central standard time. Stations now carrying this program in the middle western states are: WMAQ, Chicago; KSD, St. Louis; KSTP, Minneapolis-St. Paul; WHO, Des Moines, WOW, Omaha; and WDAF, Kansas City.

A list of national health agencies of reputable character has been secured from the Bureau of Health and Public Instruction of the American Medical Association, and is shown below:

American Medical Association, 535 N. Dearborn Street, Chicago, Illinois.

American Dental Association, 212 E. Superior St., Chicago, Illinois.

American Public Health Association, 50 W. 50th St., New York, New York.

American Heart Association, 50 W. 50th St., New York, New York.

American Social Hygiene Association, 50 W. 50th St., New York, New York.

National Tuberculosis Association, 50 W. 50th St., New York, New York.

National Health Council, 50 W. 50th St., New York, New York.

National Committee for Mental Hygiene, 50 W. 50th St., New York, New York.

National Society for the Prevention of Blindness, 50 W. 50th St., New York, New York.

American Society for the Control of Cancer, 1250 Sixth Avenue, New York, New York.

American Society for the Aid of Crippled Children, 105 E. 22nd St., New York, New York.

Joint Committee on Health Problems in Educa-

tion, Dr. Thomas D. Wood, chairman, Teachers' College, Columbia University, New York, New York.

American Society for the Hard of Hearing, 1537 35th St., N. W., Washington, D. C.

American Association for the Advancement of Science, Smithsonian Institute, Washington, D. C.

The foregoing ideas are presented to you in an effort to meet your diversified needs. It is our hope that you will find just the suggestions you need for your Health Education Programs.

Mrs. M. C. (Ruth) Hennessy,
Chairman of Program Committee

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Meeting of the Council

Hotel Fort Des Moines, Des Moines

October 27, 1937

The Council of the Iowa State Medical Society met in the Hotel Fort Des Moines in Des Moines Wednesday, October 27, 1937, at 1:30 p. m.

Roll Call: All members of the Council were present, and in addition Dr. E. M. Myers, President; Dr. A. W. Erskine, President-elect; Dr. Robert L. Parker, Secretary; and Dr. E. D. Plass, member of the Executive Committee of the Cancer Committee.

Transactions: 1. Minutes of the meeting of June 29, 1937, were read and approved. 2. Dr. McNamara, chairman of the Executive Committee of the Cancer Committee, reported that the last five chapters of the cancer manual were ready for approval by the Council. These chapters were accepted upon the recommendation of the Executive Committee. It was decided that all material in the handbook should be free to any other state's Cancer Committee which might desire to use it. 3. The matter of printing the manual was discussed, and was finally referred to the Board of Trustees with a recommendation that it appropriate funds for this purpose, or make some other arrangement for having the manual printed and distributed. 4. Dr. McNamara gave the report of the Executive Board of the Women's Field Army, Iowa Division. He reported that funds amounting to over \$4,700 had been raised in the campaign last spring, and were being held in escrow until the Council released them. Of this amount, thirty per cent should have been sent to the National Society for the Control of Cancer, and seventy per cent released to the Women's Field Army in Iowa. After discussion, the funds were released from escrow for such disbursement. The organization and activities of the Women's Field Army were discussed and explained. 5. Dr. Ellyson introduced a resolution that the Executive Council ask the cooperation of the American Medical Association in a study looking toward the determination of definite, legally acceptable, scientific, clinical and laboratory tests for alcoholic intoxication. The resolution was approved by the Council and referred to the Executive Council for consideration at its next meeting. The meeting adjourned at 3:45 p. m.

SOCIETY PROCEEDINGS

Cass County

Guy R. McCutchan, M.D., of Council Bluffs, R. A. Becker, M.D., of Atlantic, and W. S. Greenleaf, M.D., of Atlantic, presented a symposium on Hodgkins' Disease, at a meeting of the Cass County Medical Society held in Atlantic, Thursday, October 28. The program followed a seven o'clock dinner.

Dallas-Guthrie Society

The annual meeting of the Dallas-Guthrie Medical Society was held in Panora, Thursday, October 21, and the following officers were named for 1938: Dr. M. J. Donovan of Perry, president; Dr. C. I. Thomas of Guthrie Center, vice president; Dr. S. J. Brown of Panora, secretary and treasurer; Dr. H. W. Smith of Woodward, delegate; and Dr. W. L. Thompson of Bayard, alternate delegate. The scientific portion of the program was furnished by E. D. Plass, M.D., of Iowa City, who presented a paper on Complications in Late Pregnancy. Dr. E. M. Myers of Boone, president of the Iowa State Medical Society, was an honored guest at the meeting, and addressed the group. Both talks were greatly enjoyed and appreciated by those in attendance.

S. J. Brown, M.D., Secretary

Hardin County

The September meeting of the Hardin County Medical Society was held Tuesday, September 28, at the Stevens Hotel in Iowa Falls, with a six-thirty dinner, after which Fred Moore, M.D., of Des Moines, presented an illustrated lecture on Infantile Paralysis. Charles E. Ward, M.D., of The Mayo Clinic, Rochester, was the speaker for the meeting held Tuesday, October 23, in Iowa Falls. Dr. Ward spoke on Serum Therapy.

W. E. Marsh, M.D., Secretary

Jasper County

The Jasper County Medical Society held its regular monthly meeting Tuesday, October 5, at the Skiff Hospital in Newton. Byron M. Merkel, M.D., of Des Moines, was the speaker for the occasion, and chose as his subject, Deafness.

Johnson County

Members of the Johnson County Medical Society were guests of Dr. John H. Peck at the State Sanatorium at Oakdale, Wednesday, November 3. A tour of inspection of the newly added Medical-Admission Wing to the hospital was an interesting feature of the meeting. J. A. Myers, M.D., professor of medicine and public health at the University of Minnesota, and president of the National Tuberculosis

Association, was the speaker of the evening presenting a scientific address on Tuberculosis.

W. M. Fowler, M.D., Secretary

Linn County

The next meeting of the Linn County Medical Society will be held Thursday, December 9, in Cedar Rapids. Frederic Jay Cotton, M.D., professor of surgery, Harvard Medical School, Boston, will speak.

T. F. Hersch, M.D., Chairman
Program Committee

Louisa County Annual Meeting

The following officers were elected to serve the Louisa County Medical Society during the coming year, at a meeting held in Wapello, Thursday, October 21: Dr. J. H. Chittum of Wapello, president; Dr. O. A. Kabrick of Grandview, vice president; and Dr. L. E. Weber of Wapello, secretary and treasurer.

L. E. Weber, M.D., Secretary

Madison County Annual Meeting

The Madison County Medical Society resumed its meetings on Monday, September 13, when members were entertained at the home of Dr. Leslie Lamb in Lorimor. The scientific part of the program was furnished by H. E. Stroy, M.D., of Osceola, who discussed Rocky Mountain Spotted Fever, and A. L. Nelson, M.D., of Winterset, who read a paper on The Use of Steel Wire as a Suture Material.

The society met Monday, October 11, at the usual place, the Winterset Hospital, and H. C. Bone, M.D., of Des Moines, addressed the group on Gallbladder Disease. At the business session the following officers were elected for the ensuing year: Dr. H. N. Boden of Truro, president; Dr. J. F. Veltman of Winterset, secretary and treasurer; Dr. I. K. Sayre of St. Charles, delegate; and Dr. A. L. Nelson of Winterset, alternate delegate.

J. F. Veltman, M.D., Secretary

Montgomery County

Two Omaha, Nebraska, physicians presented the following scientific program for the Montgomery County Medical Society meeting at Emerson, Thursday, October 7: Diagnostic Procedures in Pulmonary Disease, John F. Allen, M.D., associate professor of medicine, University of Nebraska, College of Medicine; and Recent Conceptions in the Management of Biliary Tract Disease, Rollin R. Best, M.D., assistant professor of anatomy and surgery, University of Nebraska, College of Medicine. Guests from Mills county and Omaha attended the meeting in addition to Montgomery county physicians.

F. A. Hansen, M.D., Secretary

Pocahontas County

Members of the Pocahontas County Medical Society and their wives enjoyed their annual dinner at the Hotel Pocahontas in Pocahontas, Thursday, October 21. Guests of the society were Miss Margaret Farnsworth, director of county welfare, and Frank P. Winkler, M.D., of Sibley, councilor of the third district, and Mrs. Winkler. After the dinner, the society met for the regular business session at the court house. Miss Farnsworth spoke on Welfare Problems, and Dr. Winkler addressed the society on Current Sociologic Trends in Medicine.

B. A. Smillie, M.D., Secretary

Pottawattamie County

The next regular meeting of the Pottawattamie County Medical Society will be held at the Jennie Edmundson Hospital in Council Bluffs, Monday, December 6, with the following program: Hand Infections, Frank R. Peterson, M.D., professor of surgery, University of Iowa, College of Medicine; Spontaneous Pneumothorax, Michael J. Carey, M.D., Council Bluffs; and Duodenal Obstruction, Gordon N. Best, M.D., Council Bluffs.

Fred H. Beaumont, M.D., Secretary

Poweshiek County

Tuesday, October 12, the Poweshiek County Medical Society met in the Community Hospital at Grinnell. M. E. Barnes, M.D., professor of hygiene, preventive medicine and bacteriology, State University of Iowa, College of Medicine, Iowa City, spoke on The Practical Aspects of Epidemiology.

Scott County

Geza deTakats, M.D., associate professor of surgery, University of Illinois, College of Medicine, and attending surgeon at St. Luke's and Research and Educational Hospitals, was guest speaker for the Scott County Medical Society, at the meeting held in Davenport, Tuesday, November 2. Dr. deTakats spoke on The Present Status of Sympathectomy: Its Indications and Limitations.

H. A. Meyers, M.D., Secretary

Sioux County

The Sioux County Medical Society held a meeting Thursday, October 7, at the Sioux Center Legion Hall. The speaker of the evening, Robert L. Jackson, M.D., of the medical faculty of the State University of Iowa, College of Medicine, spoke on Pediatrics for the General Practitioner. An interesting feature of the program was the showing of a film on Traumatic Surgery of the Extremities.

C. B. Murphy, M.D., Secretary

Woodbury County

Samuel M. Feinberg, M.D., assistant professor of medicine, Northwestern University Medical School, addressed the Woodbury County Medical Society on Problems in the Management of the Asthmatic, when

that organization met in Sioux City, Wednesday, October 13.

W. H. Gibbon, M.D., Secretary

Southeastern Iowa District Medical Society

Some ninety physicians, wives and guests attended the sixty-second annual meeting of the Southeastern Iowa District Medical Society, held in Fairfield, Thursday, October 14. The scientific program was as follows: The Heart in Disease of the Thyroid Gland, Austin C. Davis, M.D., The Mayo Clinic, Rochester, discussion opened by B. J. Dierker, M.D., of Fort Madison; Surgery of the Thyroid Gland, Wilbur Bowen, M.D., Peoria, Illinois, discussion opened by F. Blinn Dorsey, M.D., of Keokuk; Perianal Inflammatory Processes and Sinuses, Newton D. Smith, M.D., The Mayo Clinic, Rochester, discussion opened by T. F. Beveridge, M.D., of Muscatine, and A. Keith Droz, M.D., of Washington; and Modern Cataract Surgery (illustrated lecture), Walter Stevenson, M.D., of Quincy, Illinois, discussion opened by Ira N. Crow, M.D., of Fairfield.

Officers elected at the business session are: Dr. S. K. Davis of Libertyville, president; Dr. L. C. Howe of Muscatine, vice president; and Dr. Frank R. Richmond of Fort Madison, secretary and treasurer.

F. R. Richmond, M.D., Secretary

PERSONAL MENTION

Dr. Charles E. Irwin, chief surgeon at the Iowa Soldiers' Home in Marshalltown for the past three years, has been appointed superintendent of the state school at Woodward, to fill the vacancy created by the resignation of Dr. A. R. Schier from that position.

Dr. Harold J. McCoy of Des Moines, spoke before the Parent-Teacher Association, in Lamoni, Thursday, October 14, on "The Care of the Eyes".

Dr. Irving J. Weiss, formerly of Minneapolis, has located in Callender to take care of the practice of Dr. M. L. Zox, who is going to Philadelphia, where he will enroll for a postgraduate course in surgery at the University of Pennsylvania. Dr. Weiss was graduated from Creighton University School of Medicine in 1931, and was in the government medical service before entering private practice in Minneapolis.

Dr. Alfred K. Meyer of Clinton, addressed the Parent-Teacher Association in Bettendorf, Wednesday, October 13. Dr. Meyer spoke on "Family Cooperation for Health and Safety".

Dr. E. C. Sage, formerly of Eagle Grove, has succeeded Dr. E. H. Place as director of the Des Moines County Health Unit at Burlington. Dr. Sage has just completed a special postgraduate course in public health work at Johns Hopkins University in Baltimore.

Dr. William F. Mengert, assistant professor of obstetrics and gynecology, State University of Iowa, College of Medicine, was elected secretary of the Central Association of Obstetricians and Gynecologists, at the recent annual meeting of that organization held in Dallas, Texas, Saturday, October 16.

Dr. M. G. Meyer of Marshalltown addressed members of the Lions Club of State Center at their meeting on Monday, September 27, on the subject "The Heart and Heart Disease".

Dr. Harry P. Lee, assistant professor of genito-urinary surgery at the State University of Iowa, College of Medicine, has resigned his position with that institution, and will leave for Spokane, Washington, on December 3, where he will enter the private practice of medicine.

Dr. Marvin Wright, a recent graduate of the State University of Iowa, College of Medicine, has located in Newton, where he will become a member of the staff of the Newton Clinic. Dr. Wright has just completed a year's internship at a hospital in Portland, Maine.

Dr. James Dunn of Davenport was the speaker of the evening for the Wapello Commercial Club when that organization met on Monday, October 4. Dr. Dunn chose for his subject "Infantile Paralysis".

Dr. William H. Howard, who has been engaged in the practice of medicine in Minneapolis for the past eighteen years, has located in Decorah. Dr. Howard was graduated in 1915 from the Hahnemann Medical College and Hospital, Chicago.

Dr. Julian E. McFarland, who has been practicing in Leon for the past five years, has accepted an appointment as a member of the faculty of the State University of Iowa, College of Medicine. Dr. McFarland's practice will be taken over by Dr. W. Norman Doss, formerly of Garden Grove.

Dr. Alton E. Lindblom of Minneapolis, has become associated with Dr. W. E. McCrary of Lake City. Dr. Lindblom is a graduate of the University of Minnesota College of Medicine, and specializes in diseases of the eye, ear, nose and throat.

Dr. W. R. Arthur of Hampton was guest speaker for the Mason City Lions Club Wednesday, October 13. Dr. Arthur spoke on "Health Conservation".

Dr. H. W. Mathiasen of Persia has received notice of his appointment as assistant collaborating epidemiologist in the United States Public Health Service for the state of Iowa. He will make special field investigations in regard to public health.

MARRIAGES

The marriage of Miss Margaret Bagley of Chicago and Dr. Aral C. Sorenson of Davenport, took place Saturday, October 16, in Davenport. They will reside in Davenport, where Dr. Sorenson has been engaged in practice for the past seven years.

Miss Frances E. Osborn, daughter of Mrs. Laura Osborn of Cherokee, was married to Dr. L. H. Peek of Cherokee, Friday, October 8, at the home of the bride's grandparents in Shelby. Dr. Peek was graduated from the State University of Iowa, College of Medicine, in 1935, and is a member of the medical staff of the State Hospital at Cherokee, where the young couple will reside.

DEATH NOTICES

Hamilton, John, of Cedar Rapids, aged sixty-six, died October 23, of heart disease. He was graduated in 1896 from the University of Pennsylvania, School of Medicine, Philadelphia, and at the time of his death was a member in good standing of the Linn County Medical Society.

McFarland, John, of Centerville, aged eighty-three, died October 5, after two years' illness following a heat stroke. He was graduated in 1887 from the Chicago Homeopathic Medical College, and at the time of his death was a member in good standing of the Appanoose County Medical Society.

Thornber, Amos Joseph, of Burlington, aged sixty-eight, died October 24, as the result of pulmonary embolism. He was graduated in 1896 from Keokuk Medical College, and at the time of his death was a life member of the Des Moines County and Iowa State Medical Societies.

THE POLK COUNTY DIPHTHERIA IMMUNIZATION CAMPAIGN

The Polk County Medical Society conducted its third annual diphtheria immunization campaign from October 16 to November 6, thus completing more than half of its previously planned "Five Year Campaign", inaugurated in 1935. The purpose of the groups cooperating in the fulfillment of the enterprise as stated is "to educate parents and physicians to the importance of giving the diphtheria preventive treatment to children under school age, preferably some time between the ninth month and one year of age." As before, the work was done in the physicians' offices, on the four Saturday mornings included in the campaign dates, and children were inoculated for the special low fee of one dollar.

Obviously the prevention of diphtheria in Polk County is no mean task; but it can be accomplished, and the Polk County Medical Society is to be congratulated, collectively, for its plan of procedure, and the physicians who took part in the campaign are to be congratulated individually, for their efforts on behalf of the children in Polk County.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. McCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

The Story of Bacteriology at the University of Iowa

(Continued from last month)

WALTER L. BIERRING, M.D., Des Moines, Iowa

The laboratory of pathology and bacteriology was located on the second floor of the old medical building, the pathologic museum being on the first floor. The general laboratory equipment was quite adequate and included fifty compound microscopes with ten oil immersion lenses. The laboratory adjoined the large lecture amphitheatre which made it convenient for demonstrations to illustrate the didactic lectures.

The new instructor and his two laboratory assistants were kept busy during this first session with organization and preparation for rather extensive courses in the new sciences. The gas jets were kept burning into the late hours, and the laboratory doors were not always locked on Sundays. In the words of a later day, it was a full time professorship. Assistants Whiteis and Dean were familiar with the use of the microtome and rendered valuable aid in sectioning tissue preparations for the laboratory courses in microscopic pathology. A liberal supply of blocks of organs showing various pathologic changes as well as the different tumors had been brought from European laboratories.

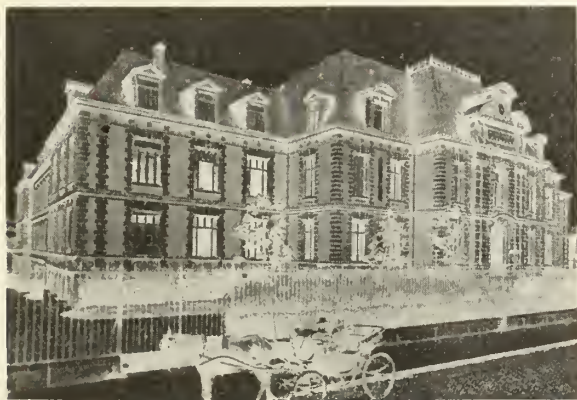
The preparation for a systematic course in bacteriology was even more difficult. The making of culture media with its various modifications is a comparatively simple procedure today, but it was not so in these early days. Powdered agar had not yet been introduced, and the old stringy seaweed product required special handling to make clear and satisfactory culture media. While a small autoclave sterilizer was available, most of the sterilizing was done by the interrupted method of twenty to thirty minute periods at 100 degrees centigrade on three successive days. One of the difficulties in the beginning was to obtain the

original stock of pure cultures of the different bacteria and keep the same replenished. The nearest source was the laboratory of Professor William H. Welch at the Johns Hopkins Hospital, Baltimore, from which on a few occasions assistance was graciously extended. It was extremely fortunate that relations were established with the Kral Institute of Bacteriology at Prague, Bohemia. In reviewing the catalogue today, one is impressed with the completeness of the collection. Aside from the well known bacteria, it included pure cultures of many rare and unusual types. A number of specially mounted plate and tube cultures for demonstration purposes were also available. The average price for viable tube cultures was fifty cents each, the specially mounted preparations ranging from one to two dollars. For a period of eight years these cultures were sent by mail and always arrived in good condition. About the year 1902 United States postal regulations prohibited the admission of viable pathogenic bacteria cultures into this country, but by that time the Iowa laboratory stock of cultures was well established.

The courses in bacteriology were well received, and the interest manifested by the students was gratifying. The issue of The Vidette Reporter of February 3, 1894, gives an account of the first paper presented before the Baconian Club on "Modern Methods of Bacteriological Research". This comprised an outline of the course of instruction, a rather complete demonstration of pure culture of the principal bacteria, and the opportunities offered for bacteriologic research with particular reference to the cause and nature of the infectious diseases. In the discussion which followed, Professor Macbride added the

remark that "the University is to be congratulated on the demonstration."

Early in February of 1894 a cablegram was received from Dr. Roux, Director of the Pasteur Institute in Paris, stating that a place was assured for the course in bacteriology beginning May first. Soon after the close of the medical school year in March the Atlantic was crossed again and on April 27, 1894, the writer arrived in Paris and was registered and assigned a place in the Pasteur Institute, then as now at 25 rue Dutot. It is interesting to recall that the laboratory table assigned the writer had just been vacated by Dr. Charles F. Martin of Montreal, Canada, for many years Professor of Medicine and Dean of the Faculty of Medicine of McGill University. The Pasteur Institute was built in 1888 by funds collected by popular subscription as an expression of a grateful French people in recognition of Pasteur's scientific discoveries in saving the wine, silk, and domestic animal industries for France, as well as his epoch making contributions to



Institut Pasteur, rue Dutot, Paris.

medical science and the control of human diseases. Because of failing health Pasteur had since 1889 transferred the Directorship of the Institute to his pupil and assistant of many years, Dr. Emile Roux. The associate directors were Doctors Metchnikoff, Borrel, Martin and Chamberland.

The writer's principal contacts were with Roux, Metchnikoff and Borrel, and it may be of interest to record a few impressions retained of each. Dr. Roux had been so closely associated with Pasteur that he breathed the very spirit of the master. He had been the principal assistant of Pasteur during the development period of the preventive treatment of rabies. In 1887 he had demonstrated with Yersin the specific toxin of the diphtheria bacillus. It is difficult to estimate the impress which his inspiring personality left with every

young physician who came under his influence. Dr. Elie Metchnikoff, the Russian biologist, had also been under the tutelage of Pasteur for a number of years, and practically all of his researches in phagocytosis and immunity were carried on at the Institute. A vivid memory remains of the interesting figure he presented as he walked across the courtyard to and from the animal quarters. A large head with black beard and long locks of hair, with several test tubes of culture media in one hand and glass pipettes in the other, and from the side pockets of the long black laboratory gown could be seen a number of guinea pigs and white rats sticking out their heads.

Metchnikoff could lecture with equal facility in French, English and German, in addition to his native Russian language. He was at this time in the midst of a train of investigations to which we owe most of the basic facts concerning the rôle of the phagocytic cells in the protection of the body against infection. During this year, 1894-1895, he published, with his pupil Bordet, the observation that the phagocytic action of leukocytes was greater in immune than in non-immune sera, and associated this with the specific properties of the immune substances or antibodies in these sera. Dr. A. Borrel had been associated with Metchnikoff in some of the earlier work in immunity, but at this time was investigating the parasitic origin of cancer and other malignant tumors. The plates and illustrations of pseudo-parasites and cell inclusions accompanying his publications in 1894-1895 resemble much of what was published by later investigators. His conclusions as stated then are interesting, "It is possible that further research will determine that tumors are caused by sporozoa, bacteria or yeasts, and while all these hypotheses are permissible, but up to this time, such do not appear to be demonstrable".

The course in bacteriology at the Pasteur Institute covered a period of ten weeks, upon the completion of which the student was permitted to carry on independent studies and investigations. Fortunately, the notebooks have been preserved, and it may be interesting to present an outline of this course, which was probably unique of its kind at that period in the field of bacteriology. The forenoon was devoted to a lecture demonstration by Roux, Metchnikoff or Borrel, and the afternoon to practical exercises pertaining to the topic under consideration for that day. The following topics were considered in sequence: classifications of bacteria and micro-organisms; culture media, preparation and sterilization, the student carrying out every detail himself; characteristics of bacterial cultures on different media; special stain-

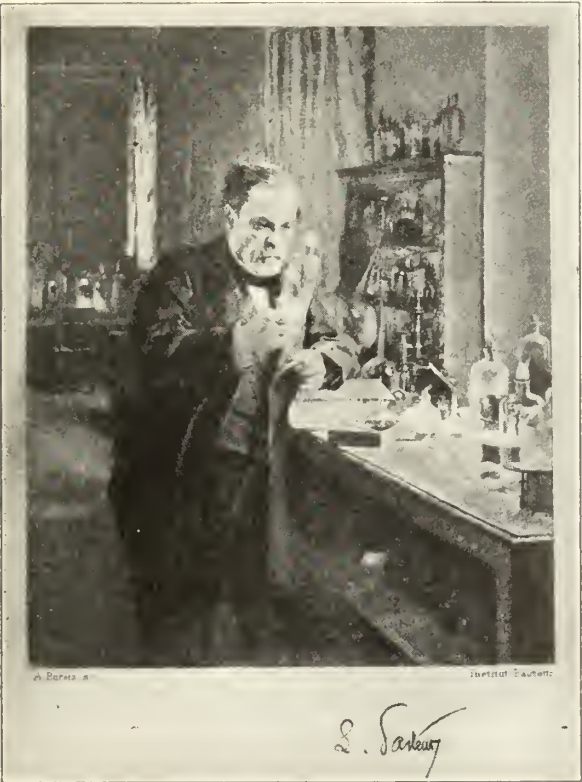
ing methods; microbes of the air, method of collection and determination; microbes in water with chemical and bacteriologic examinations; methods of water purification, including a visit to the sewers of Paris and the sewage disposal and soil filtration purification plant at Gennevilliers, a suburb of Paris; soil bacteria, nitrifying, aerobic and anaerobic; experimental inoculation of animals with pathogenic bacteria, mice, white rats, guinea pigs, rabbits, pigeons, chickens and dogs; glass blowing and preparation of special laboratory glass pipettes and tubing; anthrax, *Bacillus anthracis*, endospores, cultures, autopsy of infected laboratory animals, methods of increasing virulence, attenuated virus, protective vaccinations; chicken cholera, *Coccobacillus*, cultures, autopsies of infected chickens and pigeons, attenuation of virus and protective vaccinations; chromogenic bacteria and pigment produced on different culture media; swine erysipelas, hog cholera, mouse septicemia with methods of immunization; pyogenic bacteria, streptococci and staphylococci, *Streptococcus erysipellatis*; pneumonia, pneumococcus (Fraenkel-Weichselbaum), sputum septicemia, augmentation of virulence by successive inoculation of rabbits, reduced virulence in cultures, immune serum not good culture medium; Friedlaender's bacillus in pneumonia; rabies, hydrophobia, le Rage (Dr. Roux), historical data, experimental rabies in dogs and rabbits, fixed virus produced by successive inoculation of rabbits, attenuation of virus and preparation of vaccine, demonstration of protective vaccination in human patients; relapsing, recurrent fever, examination of blood specimens for *Spirochaeta obermeieri*; gonococcus, cultures in human blood serum media; *Bacillus typhosus* and *Bacterium coli communis*, differential diagnosis of colonies on different media; Asiatic cholera, comma bacillus, cultures, toxins, vaccines; tuberculosis, human, bovine and avian bacillus, cultures in special culture media, preparation of tuberculin, pseudotuberculosis, bacillus of leprosy; glanders, *Bacillus mallei*, cultures, preparation of mallein used as diagnostic sensitizing test; Streptothrices, actinomycosis, Madura foot, farcin du boeuf; diphtheria, bacillus, culture diagnosis, attenuation of virus, inoculation of animals, production of toxin, experimental toxic paralysis, production of immunity, use of serum of immunized animals, comparison of results at Hôpital Trousseau and Hôpital des Enfants Malades, the antidiphtheritic serum being used only at the latter hospital; anaerobic bacteria, special culture methods; malignant edema, gas gangrene, vibriose septique of Pasteur and Joubert, Koch and Gaffky; *Bacillus aerogenes capsulatus*

of Welch and Nuttall; symptomatic anthrax, black leg, protective vaccinations; tetanus, *Bacillus tetani*, strictly anaerobic, spore formation, toxin production, antitetanic serum application; influenza-bacillus of Pfeiffer, cultures; special staining technic for cilia, spores and capsules; pathogenic sporozoa, malaria (Borrel) study of parasites in stained blood slides; coccidia ovi-formis; coccidiosis of rabbits; coccidia-like cell inclusions in cancer, vaccinia and variola; Trichophyton, ringworm (lecture by Sabourand), favus, *Achorion schönleinii*; disinfectants and antiseptics, gaseous, chemical, surgical, and bacteriologic tests; phagocytosis (Metchnikoff), general discussion of existing knowledge. The closing lectures were by Roux on the immunization of horses for production of diphtheria antitoxin. This included a detailed demonstration of the procedure of preparing therapeutic serum and its use in diphtheria patients at the Children's hospital adjoining the Institute.

While Pasteur had his residence in the Institute he was away much of the summer at his country home so that visits to the laboratory were real events. One of these visits early in July was particularly eventful for the Institute, because on that day Yersin, a former assistant, returned from China with pathologic tissues of bubonic pest or plague and pure cultures of *Bacillus pestis*, the specific micro-organism demonstrated independently by Yersin in China and Kitasato in Japan, both being published in 1894. The entire day was given over to this interesting demonstration.

One of the eventful days in the life of the writer was the privilege of an extended audience with Pasteur on July 20, 1894. Accompanied by Dr. Roux to his rooms on the second floor of the Institute we found the master seated in his chair in that familiar attitude, wearing the round cap seen in a number of his photographs. He spoke in French with a slight hesitancy in speech due to a partial facial paralysis following a paralytic stroke in 1868. He expressed a personal interest in the writer's stay in the Institute and inquired particularly regarding the progress of bacteriology and medical education in America. He was familiar with the work of Dr. Welch in Baltimore for whom he expressed high regard. Pasteur was especially interested in the development of Leland Stanford University and the University of Chicago, and marveled at the liberal donations made by Senator Stanford and Mr. Rockefeller for purposes of higher education. He added the comment, "Ici il faut toujours tirer le diable par la queue" (here it is always necessary to pull the

devil by the tail). He was assured that it nevertheless took a good deal of pulling in our country, although philanthropists were manifesting increasing interest in assisting educational institutions. He warded off any reference to his personal contributions to science, but expressed his gratification that the Institute was able to offer opportunities for investigators from all parts of the world to continue their studies in the field of bacteriology and infectious diseases. Adieu and kind wishes ended a memorable conference which naturally



A' Monsieur Bierring en Souvenir de son
sejour a' l'Institut Pasteur.
20 Juillet 1894
Dr. Roux.

left an enduring memory. Upon returning to the laboratory, the writer asked Dr. Roux if a photograph of the master could be obtained, and within the hour he brought it having added an inscription as indicated.

The time following the completion of the course was devoted to the further study of diphtheria and the application of antidiphtheritic serum, observation of preventive inoculations for rabies, and the preparation of stock cultures to take back to Iowa. The return voyage in September was made in the company of Dr. and Mrs. E. W. Rockwood, who were completing a honeymoon tour and special study in Europe. Upon arrival

in New York a telegram from Dr. Littig stated that the department of histology and embryology had been added to that of pathology and bacteriology. Fortunately, the direction of this laboratory could be assigned to the able supervision of the senior assistant, Dr. Whiteis, who was accordingly appointed professor of histology and embryology in 1896.

The experience at the Pasteur Institute had inspired an enthusiasm to extend the study of bacteriology and integrate its fundamental principles more closely with the study of the other medical sciences. By this time bacteriologic research and investigation had become indelibly linked with practical advance in medicine. In presenting the newer studies in immunity it soon became evident that a practical demonstration was necessary to impress the student with the important relation of this knowledge in the better understanding of infectious diseases. The production of antidiphtheritic serum or antitoxin offered the best example, and steps were taken to immunize two horses in accordance with the directions of Dr. Roux at the Pasteur Institute. Dr. J. C. Shrader, Dean of the College of Medicine, generously donated the two horses for the experiment, although only one proved adaptable. The care of the horses was entrusted to a young high school student, now Dr. Gordon F. Harkness of Davenport. An appropriation of \$200 was granted by the University, and the following statement submitted by the secretary of the Board of Regents at the close of the fiscal year will indicate the manner in which it was expended:

State University of Iowa
Iowa City, Iowa, July 24, 1895

"Dr. Bierring

Your Horse account now runs this way—	
Horse Appropriation.....	\$200.00
Paid Out—	
Two horses	\$36.00
Bradley bill	\$12.53
(Livery)	48.53
	<hr/>
	\$151.47

Say

Keep of 2 horses	
Aug. 1, 1895 to	
May 1, 1896, 9 mos. at \$14.00.....	\$126.00
	<hr/>
	25.47

Balance of \$25.47 for contingencies and anything saved on livery bill will swell balance, but provide for exercise.

Yours,

The Pres't approves of this. W. J. Haddock"

It will be noted that a greater part of the appropriation was not used, because most of the services were rendered voluntarily.

The diphtheria toxin was developed in bouillon flasks, using the so-called Fernbach flask, which admitted the passing across the surface of a constant current of moist air and greatly enhanced the production of the toxins. After a three weeks' growth the cultures were passed through a Pasteur-Chamberland filter, the filtrate containing the toxins in solution. The toxin produced was capable, in one cubic centimeter doses, of causing the death of a rabbit of five pounds weight in forty-eight hours. Injections into the horse (behind the shoulder) were begun on December 15, 1894, the first dose being one-half of a cubic centimeter. This was gradually increased, averaging about three injections a week, the last injection being made on April 4, 1895, when 200 cubic centimeters of the diphtheria toxin were administered, indicating to what an extent the animal could be rendered accustomed to the poison. During three and one-half months the horse had received about 800 cubic centimeters of diphtheria toxin without more than a local reaction. The first blood (2000 cubic centimeters) was withdrawn from the jugular vein on April 9, 1895, at which time the serum obtained had a power of 50,000, which signified that a guinea pig could neutralize one-half cubic centimeter of recent and virulent diphtheria culture, if a previous injection twelve hours before had been made of a quantity of serum equal to 1/50000 of its body weight. Estimated in antitoxin units the above serum corresponded to about 2000 immunizing units in twenty cubic centimeters.

Of the serum produced during the months of April, May and June, 1895, 300 doses were distributed for immunizing and therapeutic use without any untoward reactions, which was rather remarkable when viewed in the light of later results. The diphtheria antitoxin prepared at the University laboratory in 1895 and 1896 was the first produced in this country outside of New York City. It formed the basis of a paper presented before the Iowa State Medical Society at Creston, April 17, 1895. Undergraduate assistant Lee Wallace Dean (M.D. 1896) was the principal associate in this work, and his research studies on diphtheria toxin and antitoxin comprised his thesis for the degree of Master of Science granted by the University in 1896. A great change has developed in the dosage of diphtheria antitoxin and its mode of administration since 1895, but by comparison it may be said that the fundamental principles of the antitoxin treatment of diphtheria as established forty-two years ago hold good today.

During the early winter of 1894-1895 an epi-

demic of hog cholera developed in Johnson County which offered further opportunity for the practical application of bacteriologic investigation. While interesting from a scientific viewpoint there was a certain discomfort connected with the performing of autopsies out in a barnyard with snow on the ground.

An incident occurred while the class was studying cultures of *Bacillus pestis* and the experimental production of bubonic pest infection in rats which might have had rather disastrous results. During the inoculation of a rat the tail is grasped while the body and head are suspended in a wire cage, the injection being made near the root of the tail. After the injection was completed the rat gave a strong jerk, became free of the cage and escaped. Several sleepless nights followed, but no consequences developed, and the incident was finally forgotten.

While the course in bacteriology appeared to fulfill the requirements of the undergraduate curriculum in the medical school, frequent inquiries and requests were made for a more complete course available to physicians and senior students to be given after the close of the medical school session. To meet this apparent need such a course was arranged with the approval of the Dean and the President, to be known as the Pasteur Course of Bacteriology, and the first course of this nature was instituted in April of 1895.

(To be concluded)

GRADUATE COURSES IN VENEREAL DISEASE CONTROL

The United States Public Health Service, as part of its public health program under Title VI of the Social Security Act, is sponsoring five graduate courses in venereal disease control in five centers throughout the nation. Announcement has been received of such a course to be instituted at Western Reserve University in Cleveland, Ohio. It will be open without fees to health officers and to physicians cooperating with state and local health departments in the states of Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota and South Dakota, but the number who can be admitted is limited. The course may be entered at any time a vacancy exists, usually for a period of three or four months. Visitors will be admitted for shorter periods if they can be accommodated. The training will be informal and adapted to the individual needs of those taking the course. Physicians who desire to take advantage of this educational offer should apply through the state health departments in the various states.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE BUSINESS SIDE OF MEDICAL PRACTICE—By Theodore Wiprud, executive secretary of the Medical Society of Milwaukee County. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$2.50.

CRIPPLED CHILDREN—Their Treatment and Orthopedic Nursing—By Earl D. McBride, M.D., assistant professor of orthopedic surgery, University of Oklahoma, School of Medicine. Second edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.50.

A DIABETIC MANUAL—By Elliott P. Joslin, M.D., clinical professor of medicine, Harvard Medical School. Sixth edition, thoroughly revised; illustrated. Lea and Febiger, Philadelphia, 1937. Price, \$2.00.

DISEASES OF THE SKIN—By Oliver S. Ormsby, M.D., clinical professor and chairman of the department of dermatology, Rush Medical College of the University of Chicago. Lea and Febiger, Philadelphia, 1937. Price, \$12.00.

EYESTRAIN AND CONVERGENCE—By N. A. Stutterheim, M.D., part time ophthalmic surgeon to the Johannesburg School Clinic, Transvaal Education Department. H. K. Lewis and Company, Ltd., London, 1937. Price, 7s.6d. net.

EXTERNAL DISEASES OF THE EYE—By Donald T. Atkinson, M.D., consulting ophthalmologist to the Santa Rosa Infirmary, San Antonio, Texas. Illustrated with 494 engravings. Lea and Febiger, Philadelphia, 1937. Price, \$8.00.

GENERAL HYGIENE AND PREVENTIVE MEDICINE—By John Weinzirl, M.S., Ph.D., Dr. P.H., late professor of bacteriology and director of the Alice McDermott Foundation of the University of Washington. Lea and Febiger, Philadelphia, 1937. Price, \$4.00.

INTERNATIONAL CLINICS, Volume III, Forty-seventh Series—Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore. J. B. Lippincott Company, Philadelphia and London, 1937.

METHODS OF TREATMENT—By Logan Clendening, M.D., clinical professor of medicine, Medical Department of the University of Kansas. Sixth edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$10.00.

THE MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS—By John Albert Key, M.D., clinical professor of orthopedic surgery, Washington University School of Medicine; and H. Earle Conwell, M.D., Birmingham, Alabama. Second edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$12.50.

MATERIA MEDICA, PHARMACOLOGY, THERAPEUTICS AND PRESCRIPTION WRITING—By Walter A. Bastedo, M.D., consulting physician, St. Luke's Hospital, New York. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$6.50.

SYNOPSIS OF GENITO-URINARY DISEASES—By Austin I. Dodson, M.D., professor of surgery, Medical College of Virginia, Richmond. Second edition, with 112 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.00.

A TEXTBOOK OF MEDICINE—By American Authors. Edited by Russell L. Cecil, M.D., professor of clinical medicine, Cornell University Medical College. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$9.00.

TWEEDY'S PRACTICAL OBSTETRICS—Revised and largely rewritten by Bethel Solomons, M.D., gynecologist, Dr. Stevens' Hospital, Dublin. Seventh edition. Oxford University Press, London and New York, 1937. Price, \$8.75.

BOOK REVIEWS

THE CLINICAL USE OF DIGITALIS

By Drew Luten, M.D., associate professor of clinical medicine, Washington University School of Medicine. Charles C. Thomas, publisher, Springfield, Illinois, 1936. Price, \$3.50.

This little volume is the result of a study of digitalis which has extended over many years. It contains chapters on the effect of digitalis on the ventricular muscle, on the auriculoventricular tissues, on the pacemaker, on the diuretic effect, on the blood vessels and on blood pressure, on electrocardiographic tracings, and a discussion on the toxic effects. Then follow chapters on indications for digitalis, and the use of digitalis in special situations, on the dosage and methods of administrations, on contraindications and dangers, and on digitalis in prognosis. The book closes with a therapeutic thesis. There is an excellent bibliography at the end.

In other words, this treatise is a complete and accurate discussion of digitalis and digitalis therapy from a clinical point of view. It states that the main action of digitalis is on the ventricular muscle rather than on the conducting systems. It emphasizes the value of the simple preparations from the standardized leaves and stresses the superfluity of the fancy more high priced forms on the market. The author rightly states that the oral and the rectal routes of administration are practically the only routes which need to be employed, and he repeatedly emphasizes the fact that signs of cardiac failure are the only indications for digitalis therapy.

The volume is a sound and much needed discussion on the use of this important drug. D.J.G.

THE NORMAL ENCEPHALOGRAM

By Leo M. Davidoff, M.D., assistant professor of neurology, Columbia University, College of Physicians and Surgeons; and Cornelius G. Dyke, M.D., assistant professor of radiology, Columbia University, College of Physicians and Surgeons. Lea and Febiger, Philadelphia, 1937. Price, \$5.50.

This is a monumental work and a definite contribution to neurology and neurosurgery. Davidoff and Dyke have reviewed four thousand encephalograms and have compiled anatomic and physiologic data until one should be able to review any encephalogram by consulting this splendid work. This volume should be of distinct advantage to the roentgenologist, neurologist and neurosurgeon, and contains information of decided benefit for the surgeon who treats any cerebral condition requiring insufflation of air to effect a diagnosis. W. D. A.

CLINICAL ALLERGY

By Albert H. Rowe, M.D., lecturer in medicine in the University of California Medical School, San Francisco. Lea and Febiger, Philadelphia, 1937. Price, \$8.50.

One of the most significant contributions to literature in the field of allergy is this new edition of Dr. Rowe's valuable work on food allergy. He has followed the general plan of the former edition in presenting a general discussion of allergy and allergic reactions before entering into the very comprehensive and detailed description of food allergies and their treatment. He has stressed particularly the use of elimination diets indicating their importance in those

allergic individuals who fail to react to the ordinary skin tests.

The volume will be found particularly useful to the physician or parent called upon to prepare and maintain a satisfactory diet, since numerous recipes are offered together with a most carefully planned dietary regime which provides for sufficient diversification of dishes to make possible strict adherence to the program without tiresome repetition.

In the closing chapters of the book the author has presented the history of many cases illustrating the symptomatology, management and final results obtained with these patients. Every physician who attempts the study, management and care of patients suffering from allergic disease will find Dr. Rowe's book extremely helpful, from the standpoint of both diagnosis and treatment.

R. R. S.

HEART FAILURE

By Arthur M. Fishberg, M.D., associate in medicine, Mount Sinai Hospital, New York City. Octavo, 788 pages. Illustrated. Lea and Febiger, Philadelphia, 1937. Price, \$8.50.

This volume approaches heart disease in a different manner from the usual thought. The subject of heart failure or circulatory failure is divided into two large groups; first, those due to disease of the heart itself; and second, those due to extracardiac causes producing peripheral circulatory failure. These two groups are subdivided into several subgroups, and each classification is discussed.

Much stress is laid on failure of the right and left ventricle and symptoms which accompany each. Many of the symptoms are treated in much greater detail than is found in the usual textbook. In the past few years circulatory failure has been more accurately studied through the determination of such factors as cardiac output, velocity of blood flow, venous pressure, circulatory blood volume, etc. The knowledge which has been gained through these rather academic studies has greatly assisted us in our knowledge of the dynamics of the diseased heart. Although much of this is academic, some of it can be applied at the bedside.

The book attempts to apply these advances in the dynamics of the circulation to bedside practice and so assist the practicing physician in the handling of these cases.

E. E. K.

ALLERGIC DISEASES

Their Diagnosis and Treatment—By Ray M. Balyeat, M.D., associate professor of medicine, University of Oklahoma Medical School. Illustrated with 132 engravings. Fourth edition, revised and enlarged. F. A. Davis Company, Philadelphia, 1936. Price, \$6.00.

This fourth edition of allergic diseases by Balyeat reflects the author's experience in this special field of practice during the past fifteen years. The open-

ing chapters of the book deal with the problems of asthma and hay fever and stress the importance of pollens, particularly in those cases observed in the Mississippi Valley. In subsequent chapters the author discusses other manifestations of allergic disease and in many instances correlates these manifestations with those of true asthma.

In the section on the treatment of food sensitive patients, he presents a number of recipes for use where elimination diets are required. The volume is written in a fashion which will be appreciated not only by the physician having a special interest in this field, but also by the intelligent layman who may require advanced knowledge concerning these conditions. The author utilizes many photographic and colored illustrations which add materially to the usefulness and interest of the volume.

R. R. S.

A TEXTBOOK OF SURGICAL NURSING

By Henry S. Brookes, Jr., M.D., instructor in clinical surgery, Washington University School of Medicine. With 233 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.50.

This is a splendid book, nicely written and well illustrated. From the title one would gather that the book is for nurses especially interested in surgical nursing. It is excellent material for any nurse and, because of the amount of knowledge compiled in this volume, it might well be used for medical students in the first or second year of their study.

One chapter briefly deals with the poise that is becoming to a nurse. The chapter on inflammations is equally well written, and those dealing with the duties of operating room nurses, instruments, sutures and drainage, are unusually well prepared, with the names and numbers of instruments needed in almost any operation. In the chapter dealing with anesthetics more has been written than is necessary for the surgical nurse. However, it is well to have it included in the work because it explains some of the newer anesthetics, which is, of course, valuable knowledge for a nurse.

The criticism this reviewer would offer, if any, would be that there is more attention paid to diagnosis and treatment than is ordinarily found in textbooks for surgical nursing. Perhaps, this is a recommendation. It certainly shows the increasing scope of duties for the individual taking nurses' training, and particularly surgical nursing. The portion devoted to surgical duties seems to be exceptionally good. An added feature is the portion entitled "Medicolegal Points," and this we believe might be quite valuable. The glossary also contains interesting and worthwhile information. It is a splendid feature and one not commonly found in nursing textbooks. We have no hesitancy in recommending this volume to any nurse and especially to those interested in surgical nursing, and likewise to the doctor conducting classes in that course.

L. D. P.

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BRUCELLOSIS*

L. R. WOODWARD, M.D., Mason City

First known as malta fever, then as undulant fever and now called brucellosis, this disease has recently been recognized throughout the United States; the first case in Iowa was reported in 1926. In the decade since then there have been 11,402 cases in the United States, 1,163 in Iowa and 75 in Mason City. Iowa has the highest rate of any state, with 5.9 cases per 100,000 population, but all the states surrounding Iowa have higher than the average for the whole United States, which is 1.5. In Iowa, Cerro Gordo County seems to have had more than its share.

Brucellosis appears to be the correct name for the disease, for it is caused by an organism called the *Brucella* and so the name is analogous to the name tuberculosis due to the tubercle bacillus. The natural habitat of the *brucella* organism is domestic live stock; goats, cows and hogs being the usual hosts, although organisms are found sporadically in other animals. Three varieties are commonly recognized: the caprine variety from goats called *Brucella melitensis*, the bovine variety from cows called *Brucella abortus* because it is the cause of contagious abortion or Bang's disease in cows, and the porcine variety from hogs called *Brucella suis*. The three varieties have rather definite cultural characteristics and can be differentiated in the laboratory. The origin of the organism does not determine its variety, since *Brucella suis* is at times isolated from cows. There is a distinct difference between the three varieties in their pathogenicity for the human being, the caprine and porcine types being definitely more virulent than the bovine type.

When the disease was first recognized as coming from goats, all cases seemed to be caused by the ingestion of the organism with infected milk. The first cases coming from cows were also thought to be due only to ingestion of the organism with the milk, but all cases could not be so

explained and now it seems probable that more cases from cows and hogs are due to handling infected material from these animals. Dr. A. V. Hardy¹ at Iowa City did some experimental work on guinea pigs, proving beyond question the possibility of the organism gaining entrance through the skin. As you will see from the analysis of the cases occurring in Mason City, this seems the more probable portal of entry. Drinking of milk is not the only and probably not the most important form of dairy products to consider as the source of the disease if ingestion of the organism seems the probable portal of entry. The organism goes with the cream when the milk is separated; therefore, cream, butter, ice cream and food stuffs made with cream are more likely to contain the organism in large quantities.

In Mason City up to the present time, 79 cases of brucellosis have been recognized. Only 39 of these cases have come under my own observation, but due to the courtesy of all the doctors in Mason City who have treated cases in giving me their records, I am able to report on all the cases which have occurred there. Of these 79 cases, 59 patients were employees of the packing house; twelve were farmers; and eight were included in a miscellaneous group, consisting of two salesmen, one of whom was a stock food salesman and opened hogs to demonstrate worms; one butcher who cut his hand and drew compensation for his injury; one butter-maker who tested raw cream; one cattle buyer who took care of an aborting cow; one cement plant employee; and one housewife, this last case being the only one seen in a woman. Of the 59 cases in the packing house, 40 occurred among employees handling fresh animal products, there being fifteen from the killing floor; nine from the offal where everything coming off the carcass is handled; two from the sausage room, two from the trimming room; two from fresh pork pack; two inspectors; one from the canning department; one from the freezers; and six from the beef department. There were five from departments handling cured meats, three from the

* Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

canned ham department, one from the dry cure and one from the sweet pickle department. A miscellaneous group of seven consisted of three pipe fitters, one electrician, one elevator operator, one truck driver and one man from the shipping room. Oddly enough seven cases occurred in the main office. Some of these employees made occasional trips into the plant but most of them never went into it.

Of the twelve cases among farmers, there was a history of abortion in the cows in seven instances. Three of these on the same farm thought they got it from drinking milk; one other was a young man who might have received the organism through milk. The other three had taken care of aborting cows, but did not drink milk; however, other dairy products were considered. No probable source of infection was known in the remaining five cases.

In this group of cases, all but one were men, and all but two were young or middle-aged adults. Of these two, one was sixty-seven and the other seventy years of age. The disease was mild in 41, moderately severe in 22, and severe in 16. A mild case is one lasting from four to six weeks and running a fever up to 99 or 100 degrees. A moderately severe case lasts from eight to ten weeks with temperature up to 102 or 103 degrees, and a severe case may run from a month to three months or more, with temperature up to 104 or 105 degrees, with severe sweats and a great loss in weight. The patients fell into three groups in length of time sick which depends on the number of waves of fever. Those with one wave are sick one month, those with two waves, two months; and those with three waves, three months. One patient was sick six months with several waves of fever. It is difficult to determine accurately the duration of the disease because the patient usually has been feeling ill for a month before he is seen. One patient had been ill for three months. Practically all had lost weight. In the mild cases it was slight, but in the severe cases the loss averaged thirty pounds. All had sweating, especially at night, but also on exertion. In the mild cases, this was not profuse but in the severe cases, all had drenching sweats. Temperature varied from 99 to 106 degrees. Temperature was not high at onset and the degree of fever at onset was not an index of how severe the case would be. Agglutination tests were positive in all but two cases. Two definite cases never had positive tests. In the others, the titer varied from 1:80 to 1:2560. The titer was no index of the severity of the disease. A positive blood culture was obtained in eight patients. *Brucella suis* was obtained in four of these and *Brucella*

melitensis in four, but these were in 1928 before the organism was differentiated into the three varieties. A positive blood culture is the most definite diagnostic criterion but since it takes at least three weeks to grow, its value as an aid in

TABLE I

BRUCELLOSIS			
NUMBER OF CASES 1926 to 1935			
Year	U. S.	Iowa	Mason City
1926	46	1	1
1927	217	41	0
1928	647	118	10
1929	952	174	8
1930	1420	145	4
1931	1351	48	5
1932	1326	186	8
1933	1659	151	6
1934	1887	187	26
1935	1897	112	7
Total	11,402	1,163	75

diagnosis is lessened. The patient is often well when the report is made. There was only one death from brucellosis. An autopsy on this patient revealed an abscess in the wall of the heart. The two elderly patients died, but both had advanced arteriosclerosis, one dying of coronary disease and the other of cerebral disease. I am not sure that brucellosis hastened their deaths. One died of an accident nine months after recovering from a severe brucellosis.

There have been a number of interesting factors complicating brucellosis. One patient is still sick. His weight is normal and he has no fever, but he does not feel well. All of the others have regained their usual health. This may be the chronic type of the disease spoken of by Evans¹⁰ and Angle⁸. One of the early patients had a

TABLE II

No. of Cases per 100,000 Population	
United States	1.5
Iowa	5.9
Missouri	4.6
Kansas	4.3
Minnesota	3.4
Wisconsin	2.0

mild delirium which made his condition resemble typhoid fever. Five patients had a cough severe enough to make repeated examinations for tuber-

cle bacilli but no cases of tuberculosis were found. Two patients had a prolonged convalescence because of rapid pulse and dyspnea on exertion, although no definite cardiac pathology was found. Pains in the joints were common but only two developed typical arthritis with red swollen joints. One of these was kicked by a calf and the possibility of serious injury was considered before it was found that the patient was having severe sweats and high fever, and brucellosis was diagnosed. Pains in the abdomen are a common complaint and at times lead to an appendectomy or a gallbladder operation. Only one patient in this series had abdominal pain and this was in the left upper quadrant. Several patients had sore throats and inflamed tonsils. Tonsils were removed in one who had a severe case afterward. One patient had a severe purulent maxillary sinusitis but after having the sinus cleared up he still had a fever of 103 degrees and profuse sweats. The diagnosis was a typical moderately severe brucellosis. One patient had a severe pneumonia due to Type I pneumococcus during the course of his brucellosis without effect on it. Brucella were looked for in the sputum but not found. Brucella pneumonia has been diagnosed. One patient fell out of a tree suffering a fracture of one vertebra and several ribs. He had a fever from the time he entered the hospital, with rather severe sweats. It was some time before it was definitely determined that the fever could not come from his injury, and he said he had not felt well for some time before. A diagnosis of brucellosis was established and he ran a typical moderately severe course.

One patient developed a hernia which was operated upon, but at the end of six weeks he did not feel well enough to return to work. It was then learned that he had not felt well for a month before the accident which caused the hernia, and had lost weight. He had a positive agglutination test. The most usual symptom is a general feeling of malaise and during this period a diagnosis of influenza is frequently made. An influenza that lasts a month is frequently brucellosis. Chilliness is common, but definite chills have rarely occurred. The onset is nearly always insidious but occasionally is abrupt. Sweats are the most common symptom, usually occurring at night and very profuse in nature. Loss of weight also occurs in all.

Nineteen patients were treated with acriflavine with apparent prompt recovery in eleven, no effect in four and doubtful benefit in four. The disease was classified as severe in four, moderately severe in ten and mild in five. None of the severe cases improved. Seventeen were treated in the first wave of the disease, with recurrence of fever in

six. Four treated in the second wave had no recurrences. Untoward effects were a severe chill in two, thrombosis of the vein in two and a tachycardia in two, in one of whom it still persists after three years. The patients received from one to three intravenous injections of 0.2 gram, 0.3 gram and 0.4 gram of drug respectively. Two patients who had a recurrence of fever had a second series of injections. Mercurochrome was used in eight patients, all mild or at worst moderately severe, and the physician using it was doubtful of its value. Seven patients were treated with *brucellin with a fairly prompt recovery in all but two.³ There was apparently no effect in these two, but the treatment may not have been pursued long enough. Two very severe cases were not influenced until doses of two or three cubic centimeters were given. One patient had a second wave afterward and received a second series of injections.

Antibrucella serum† has been used in three cases.⁷ In one there was no effect; in one the effect was doubtful, and in the third there was prompt recovery.

Vaccine⁸ has not been used. Its value in an acute case is doubtful, but in a chronic case it may have a place. The remaining 39 patients received symptomatic treatment with bed rest. Any treatment is good if it is given at the right time. When given near the finish of a wave of fever the results are good, but results of treatment given in the beginning are not so encouraging. Further waves of fever have occurred following all methods of treatment.

CASE REPORT

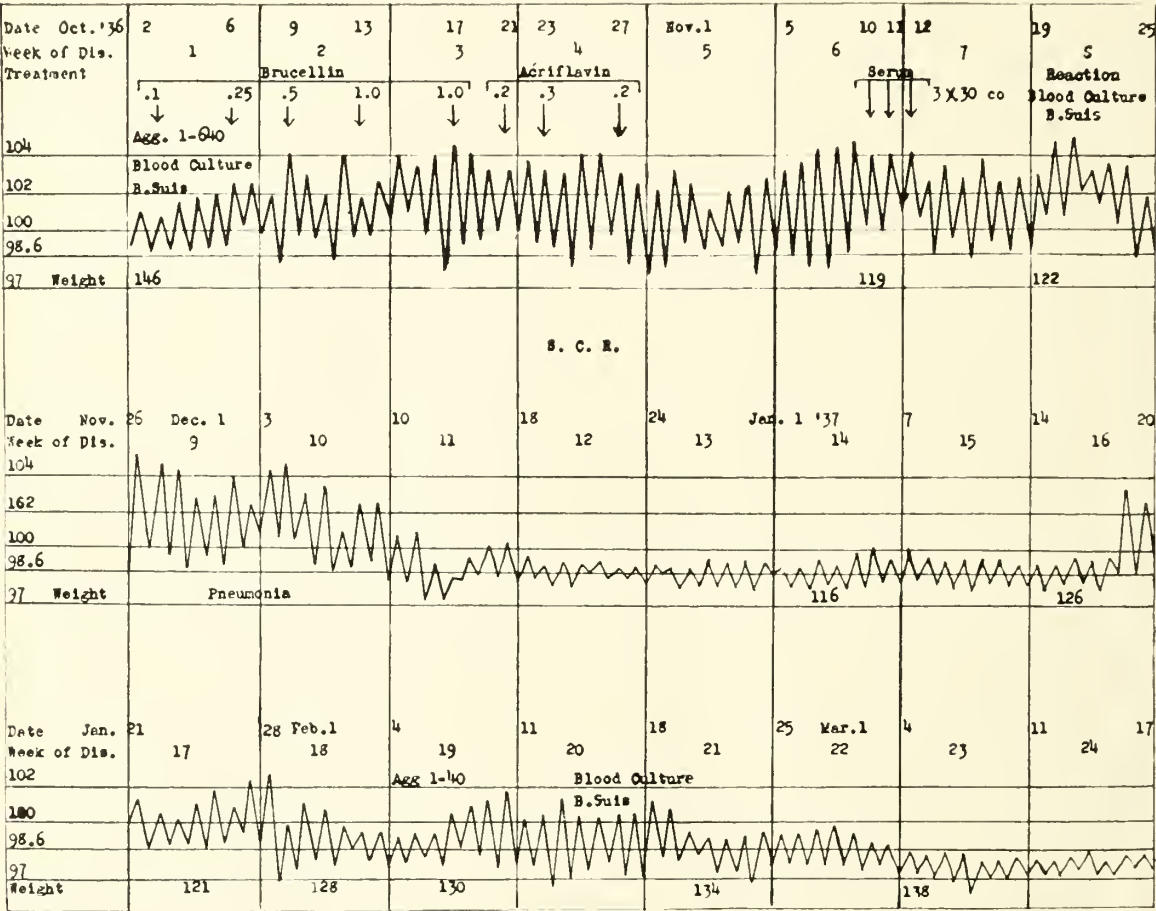
Mr. S. R., thirty-nine years of age, an inspector in the packing house, first came under observation on September 26, 1936, with a history of having felt ill for about a month. He had some swelling of the glands of the neck and thought it was due to his tonsils. His temperature was 100 degrees, and he had lost about five pounds in weight and had some sweats. His blood had an agglutination titer of 1:640 and brucellin therapy was started. During the course of brucellin therapy his temperature went up to 104 degrees and his sweats became more profuse. Others who had been treated by acriflavine urged that it should be used, so brucellin was discontinued, in my opinion, much too soon. Acriflavine was given an adequate trial without benefit. I next turned to antibrucella serum (Foshay), and it too was given adequate trial without benefit. Following

* Brucellin furnished by the State Hygienic Laboratories, University of Iowa.

† Two received commercial serum; one received serum furnished by Lee M. Foshay, M.D., of the University of Cincinnati.

this, he had severe arthritis, whether from the serum or the disease I am not sure. He seemed to be improving but developed a cough and high fever and ran a typical case of pneumonia with a Type I pneumococcus. Antipneumonia serum was not used because the type was discovered late in the course of the pneumonia and he had recently had other serum with a possible serum reaction. The patient recovered from the pneumonia and it was thought the fever of the pneumonia might cure the brucellosis, as it apparently

to the tuberculin test, promises to be the most valuable of all, both as a diagnostic procedure and for surveys of healthy groups of people for latent infection. Brucellin and vaccine have been used, but the details are not well enough worked out for universal application. The difficulty is that an occasional sterile abscess results from the test. As a guide to treatment the agglutination test is of no value, but the opsonocytophagic test may prove to be useful when we have found a definitely specific remedy for the disease.



did. However, he had further waves of brucellosis with more arthritis and pain in the abdomen. He recovered without any further treatment and returned to work April 1, 1937.

TESTS

The most commonly used test is the agglutination test but it has its fallacies. We do not know how long it remains positive. From the groups tested, no reliable information on this point could be obtained. Blood culture is the most reliable diagnostic procedure, but the length of time necessary reduces its value. A skin test, analogous

In 1928 Dr. A. V. Hardy and Dr. C. F. Jordan arranged to have agglutination tests made from the blood of employees in the packing house. Dr. Jordan came in November and blood was taken from 223 employees who volunteered. Fortunately a fair cross-section was obtained from all departments of the plant. The agglutination tests were conducted by Dr. I. H. Borts, in the State Hygienic Laboratories in Iowa City. Of the 223, 151 were from departments handling fresh materials; 52 tests were positive; the remaining 72 from the rest of the plant showed six positive tests, making a total of 58 positive tests.

In the spring of 1934 several cases occurred among the employees and the management asked for another survey. Arrangements were made through Dr. Walter L. Bierring of the State Department of Health, and Dr. Jordan returned in July and took blood from 247. Very few of these were the same employees who were tested in 1928. Of these, 159 from the fresh meat departments gave 39 positive tests and 88 from the rest of the plant gave six positive tests. Checking all duplications, it was found that 59 had been sick, 54 had a positive test in 1928 and 25 more in 1934, making a total of 138 with evidence of having had infection with the brucella out of a plant employing about one thousand men. Since only about one-fourth of the employees volunteered for the test, we have no way of determining the actual number who are infected.

In an effort to correlate these findings in human beings with possible disease in animals slaughtered, Dr. Bierring of the Department of Health made arrangements for Dr. S. H. McNutt⁶ of the Department of Veterinary Medical Investigation of Iowa State College at Ames to come to Mason City in the summer of 1934, and he spent most of the summer making investigations. Blood was taken from animals at the time of slaughter and tested by a rapid agglutination method requiring only a few minutes. Tissues were then taken from the positive reactors and cultured. Tissues taken were cervical, maxillary, mesenteric, hepatic, lumbar and inguinal lymph nodes, spleen, kidney and uterus. Out of 1,547 hogs tested, 36 or 2.3 per cent were reactors in a dilution of 1:50 or higher. Tissues taken from 13, or 38 per cent, of these reactors yielded positive cultures. The lymph nodes were the tissues most commonly containing the organism, but others which occasionally harbored it were the spleen, kidney, and uterus. The total number of cattle tested was 497. Over half were western cattle and forty-six were calves. Of these, eight were reactors and none yielded positive cultures.

In 1934 the federal government appropriated \$17,000,000 for the eradication of Bang's disease in animals and there is a cooperative arrangement between the Iowa Department of Health and the Bureau of Animal Industry of the United States Department of Agriculture to discover sources of infection of human cases of brucellosis. On receipt of notice of a case by the Health Department, a form is filled out and sent to Dr. J. A. Barger, inspector in charge of the Bureau of Animal Industry. He communicates with the farmer, makes arrangements for testing, and makes payment for animals removed. From July 1, 1934, to March 31, 1937, a total of 392,834

head of cattle have been tested in Iowa, with 53,607 reactors, or nearly 16 per cent. For the United States, out of about 16,000,000 tested, 1,140,639 reactors were found, or about seven per cent. There are 11,850 herds aggregating 211,863 head of cattle under observation at the present time, but since there are approximately 3,500,000 head of cattle in Iowa, only about one-tenth have been tested. There is also some work being done in testing swine, but I do not have data on this.

There has been a drop in the number of cases since 1934 when the greatest number occurred, but there was a large number in 1928 with a drop following that, so it is too early to say that the removal of diseased animals is already showing its effect in human brucellosis. For control of the disease in human beings, some method of immunizing exposed groups of people must be developed or diseased animals must be removed from herds of domestic animals. Due to the success of typhoid vaccination, it was hoped that a vaccine would confer immunity to brucellosis, but dead cultures have proved futile and it does not seem probable that live cultures of low virulence can be safely trusted for they are not accepted by all veterinarians for immunizing cows. It would seem, therefore, that our only hope lies in removing diseased animals from our herds of domestic livestock.

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Discussion

Dr. Carl F. Jordan, Des Moines: A little over ten years ago Dr. Woodward was first to recognize a case of undulant fever in Iowa. In the splendid paper presented today, he has mentioned the three varieties of brucella organisms; he has dealt with the means of transmission of infection from animals to man, and with the symptomatology, treatment and

prevention of undulant fever, with particular reference to a comparatively large series of cases which have come under his own observation. He has also referred to survey work carried out in one of the large packing houses of this state and to the findings with reference both to brucellar infection in animals and among employees in the packing plant.

The attending physician plays a highly significant part, not only in the recognition of undulant fever but also in the determination of the probable source of infection. The agglutination test, repeated if necessary, is the most readily available means of corroborating the clinical diagnosis of undulant fever. Another important step is that of obtaining a blood culture from the patient during the febrile period. It is urged that this be done whenever possible. A positive blood culture, although of little help in early diagnosis, is of supreme value in connection with the epidemiologic study of a case of undulant fever. If the bovine type of brucellar organism (*Brucella abortus*) is isolated from the blood stream, the source of infection is definitely traceable to brucellar infection in cows. If the blood culture yields the porcine strain (*Brucella suis*) infection is most likely to have had its source in hogs. The agglutination test alone does not help to determine the source of infection; on the other hand, the blood culture, when positive, gives an important lead as to the species of infected animal concerned. From this standpoint, the value of the blood culture can hardly be over-emphasized. In addition to the agglutination test and blood culture, it is desirable that special studies be made with the intradermal skin test and the opsonocytophagic test, reactions which throw light on the part played by allergy and immunity in the course of infection with brucellosis. It is well to repeat that the physician's chief contribution to the epidemiology of his case of undulant fever is through the obtaining of a blood culture. The public health laboratory then assists with the isolation and identification of the strain of brucellar infection. Just as the physician contributes to the epidemiology of brucellosis as it affects man, so also does the veterinary worker lend assistance in determining the occurrence of brucellar infection in hogs and cows. Dr. Woodward has referred to the agglutination and bacteriologic study, so ably done in one of the packing houses in Iowa, by Dr. S. H. McNutt of the Veterinary Research Department of Iowa State College.

It might be of interest to mention briefly the steps which are taken with reported cases of undulant fever. When the laboratory reports positive agglutination findings for undulant fever, a letter from Dr. Bierring, the State Health Commissioner, is forwarded to the attending physician and an undulant fever case record form is enclosed. The case record form is completed by the attending physician and returned to the State Department of Health. Pertinent facts regarding each case are sent to the office of Dr. J. A. Barger, D.V.M., inspector in charge of the Bureau of Animal Industry, U. S. Federal Court House, Des Moines, Iowa. Through the Bureau of Animal Industry, further correspondence is conducted

with owners of cattle and hogs concerned in cases of human illness. Special efforts are put forth to obtain the consent of dairymen or farmers to have animals tested for evidence of Bang's disease, or infectious (contagious) abortion. The owner signs an agreement and receives an indemnity (\$25.00 for grade and \$50.00 for pure bred stock) for animals which react to the test. An assistant state veterinarian or local veterinarian is assigned to obtain blood specimens from cows and hogs. Herds are retested several times until found free from infection.

Through the cooperative work as outlined, valuable information is obtained regarding the status of Bang's disease in cows and hogs incriminated in cases of undulant fever. Positive blood tests on animals help greatly in determining the probable source of infection of brucellosis in man. Agglutination tests on animals also represent a chief means of controlling brucellosis in animals and preventing additional cases of undulant fever in human beings. With the continued interest of physicians in this subject, further contributions will be made to our knowledge of the clinical and epidemiologic aspects of undulant fever.

FRACTURE DEMONSTRATION*

WALTER SCOTT, M.D., F.A.C.S., Sioux City

This brief presentation is brought to you through the efforts of the State Fracture Committee, which is a committee within your own State Society. The purpose thereof is to further an educational program whereby the laity might become instructed in the first aid handling of fracture cases. Someone has said that the treatment of the major fracture is roughly divided into these four stages:

1. First aid.
2. Transportation.
3. Reduction.
4. Postoperative care.

We as physicians are called upon to take charge of things at the end of the second stage; but what has happened up to that point? Our patient has been injured, usually by some accidental force over which he probably had no control. Following the accident, insult is added to injury by an enthusiastic and well-meaning friend who by "knock-down and drag-out" methods, assumes the rôle of the Good Samaritan. Proper splinting is often forgotten. Let us spend a few moments this morning on the simple time-honored principles necessary in the care of the following fractures:

* Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

1. *Fractures about the shoulder, elbow and humeral shaft.* The splint as noted in Figure 1 serves two purposes; it limits extension at the



Fig. 1.

elbow and prevents pendulum action at the shoulder. Note that it is composed of a sling from the wrist to the neck plus the added swathe feature which binds the upper arm to the thorax.

2. *Fractures of the forearm and hand.* A box, a board or some metal substance is usually available to be used as splints. In Figure 2 note the



Fig. 2.

padded boards which have been tied on the dorsal and volar surfaces of the forearm. A sling is then added to provide further comfort.

3. *Fractures of the lower leg and foot.* The pillow splint is ideal and provides good stability. It is easily applied and the materials are most

always available. Figure 3 illustrates the essential features involved.



Fig. 3.

4. *Fractures of the femur.* These lesions are extremely shocking if not handled properly. Even the slightest play at the fracture zone during transportation adds to further hemorrhage and



Fig. 4.

shock. Figure 4 shows an excellent type of immobilization and one which is made up of readily available materials. A crutch, two by four, tree limb and the like can always be found. In certain situations the splint might first be padded to protect the skin.

5. *Fracture dislocations of the cervical spine.* This portion of the human body is particularly vulnerable to the violences of our automobile age and while the maximum damage is usually done at the moment of injury, proper protective measures certainly are not amiss. In lifting the patient to the ambulance cart, hyperextension and slight traction must be maintained. Figure 5 illustrates our method of immobilization by the use of sand

bags. An improvised sand bag can be made by filling a sack or sock with gravel.



Fig. 5.

6. *Fractures of the dorsal and lumbar spine.* No injury receives worse treatment. The most common injury pathologically, is a compression fracture of the vertebral body and the breaking force is met with in an attitude of hyperflexion.



Fig. 6.

A re-enactment of this position while the patient is being lifted, may so angulate the spine that the cord is irreparably damaged. These patients should be rolled onto a blanket and lifted face down so as to hyperextend rather than flex. Figures 6 and 7 illustrate these points.

In demonstrating these first aid principles to you, we have purposely avoided the use of complicated splints and braces which, strangely, are never to be found at the scene of an accident. All of the materials shown can be readily obtained or duplicated in almost any situation. It is the earnest hope of the Fracture Committee that each physician of Iowa take it upon himself, as a com-

mittee of one, to teach the laity these fundamentals so that the layman in turn will be better



Fig. 7.

equipped to meet the contingencies constantly arising along the highways of our state.

INTERNAL FIXATION FOR FRACTURES OF THE FEMORAL NECK*

C. J. LOHMANN, M.D., Burlington

The subject of internal fixation of new fractures of the neck of the femur has been reviewed and discussed at great length in the last three years, and its further sincere consideration seems to me to be very much indicated when we realize that today there is still a vast difference of opinion as to its correct management. There are some who agree with Speed¹ that the femoral neck fracture is still the "unsolved fracture." There are others, although fewer each year, who believe that one of the older methods of external fixation is still the method of choice. Since the acceptance of the principle of internal fixation by many others, there has been a deluge of different methods thrown before the profession, a complete review of which would take many hours. However, these differences are only in regard to the method; the principle has already been accepted. Therefore, I am well aware that in this group there are undoubtedly various opinions and some may differ with me, but after all if we all thoroughly agreed, the subject would be uninteresting and time only wasted in its consideration.

Fracture of the hip is a common and indeed, a major injury, the majority occurring in the aged, to whom it is our greatest desire to bring freedom from pain, peace of mind and continued activity. Yet we will all agree that our results in the past

* Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

have been anything but good, either as to alleviation of pain, mortality or future disability. Poor results obtained locally in fractures of the femoral neck are: painful joint; non-weight bearing joint; gross deformity, shortening and external rotation; adduction contractures; traumatic arthritis; inadequate fibrous union; and nonunion. These poor local results are attributed to various causes including poor reduction, incomplete fixation and insufficient time of fixation. Probably the most important factor is the poor circulation to the femoral neck and head. No more thorough or conclusive work has been done on this subject than that by Dr. Wolcott² and I sincerely hope he includes it in his discussion today.

If I express my enthusiasm about internal fixation over older methods, it does not center on the local results but rather on the greater number of patients who are kept alive by getting them out of bed and the greater degree of comfort and mild activity so precious to these old people who often do not have long to live anyway.

Insufficient thought has been given to the numerous associated conditions which arise through older methods, such as: shock and exhaustion, hip and leg pain, hypostatic pneumonia, cardio-renal conditions, bowel upsets, ileus, etc., mental upsets, senile dementia, embolus and phlebitis, retention of urine with urinary sepsis, pressure necrosis, bed sores and prolonged hospital stay with incident expenses. Thus with common poor results, such frequent general complications, and a mortality rate from 30 to 45 per cent, we have our first important point in favor of internal fixation for femoral neck fractures. It is not necessary to try for perfection in order to improve the score greatly.

In mentioning the various methods of treatment such as the plaster spica, the Roger-Anderson splint, the Maxwell-Ruth traction method, autogenous and beef bone pegs, and the sand bag method, it is not my purpose to tear these to pieces, but the very fact that so many poor results have been obtained by good men clearly indicates that these methods have many inadequacies.

Other than the fact that an operative procedure is involved, internal fixation has every advantage and might be summarized as follows: It allows the use of one's favorite method of reduction. No general anesthetic is required, therefore, there is no associated shock. It is indicated in all cases, and at any age. Its use results in a much higher percentage of bony union. The degree of internal fixation is absolutely complete, a point which is questionable in the majority of methods mentioned. Applied correctly, it holds the fixation indefinitely; certainly long enough for nature to prove her

powers of regeneration, and yet who among us has not removed a cast at three and one-half or four months because we did not have the heart to leave it on longer, but with a fear that we were too hasty. It is the only method that gives complete active motion immediately to the joint, the circulation to the head and neck which is so very much in question. It allows immediate use of physiotherapy. It gives complete freedom from pain, because the fracture is fixed. It saves lives by getting these people out of bed and putting them back as nearly as possible into their normal environment and activity, which is so essential in guarding their narrow borderline of safety. It shortens disability, for with no joint stiffness, muscle atrophy and loss of general strength, the patients are ready to walk as soon as the physician gives his permission. It greatly reduces the hospital expenses. Lastly, with the patient immediately able to move about in bed, to be in a chair the second to the seventh day, on crutches in seven to twenty days, and home, sometimes as early as two weeks, if there were no other advantages, this comfort and feeling of well-being would make the method very much worthwhile.

In attempting to review briefly some of the methods of internal fixation now in use, I do so with no false conception as to my ability to say that this or that method is the best. I believe no individual has, as yet, a wide enough experience in various methods to get fixed ideas on the subject. On the other hand, I have noticed that some men infer that they attribute their good results to their more or less "pet" method rather than to the principle of internal fixation itself. The acceptance of this principle has most certainly opened a field for the application of one's mechanical sense and brought forth a multitude of ingenious ideas.

The first method presented is the double parallel pinning fixation published by Knowles³ and the same adopted with slight modification by Key⁴ and presented by him at the orthopedic section of the American Medical Association meeting last fall. The method consists in the insertion of two one-eighth inch pins, through the skin, distal fragment and into the head. The pins are hand drilled under fluoroscopic guidance, as far apart and as nearly parallel as possible. Each has a small ring attached at the proper length to prevent its working deeper, and when satisfactorily entered, the pins are cut beneath the skin. No external fixation is used and the patient is allowed to be on crutches, but no weight-bearing is permitted until the x-ray shows evidence of bony trabeculation. Because of the backing out of one of the smooth pins, Key has threaded the ends

of the pins and screws them in. He also had one case of nonunion due to bending of the pins. One death was reported from the pin entering the iliac vein. An advantage of the double parallel pinning is that no operative incision is made. However, no one should attempt it without fluoroscopic control which is not available in many instances, and the use of which makes absolute sterility of the field more difficult. Key, I believe, is the only man who has ever said that he does not prefer an accurate reduction, but rather an over-correction with the upper cortex of the neck hooked into the cancellous bone of the head. I think most of us do not agree with him; however, I do think that one should tend toward a valgus position with the pin entered as low and at as great an angle as possible, and never fix the fracture in varus. A case was reported by Ravenswaay⁵ where a single pin worked into the bladder and was later successfully removed, which proves conclusively that any form of pin must be anchored by attached rings or nuts, by a head or by threads.

Telson and Ransohoff⁶, and Dyas and Aries⁷ independently have reported the use of three or four Kirschner wires drilled through the skin into the head and later cut off, for cervical fracture fixation. No retentive apparatus is used and a walking-caliber may be allowed after six weeks. The more or less blind entering of these wires would seem very difficult in the hands of most individuals. In the first case used by my friend Ober⁸, there occurred a complete bending of the wires with resultant deformity, which rather discouraged us in its further use. I should also consider the possibility of a wire working into the joint. However, the method again avoids an actual operative incision and in the hands of the authors the method produced very good results.

A little further variation is the technic presented by Austin Moore⁹, used by Wolcott¹⁰ and popular with many others, consisting of the use of three stainless steel pins drilled in the head, after incision down to the bone. The pins are entered at different angles, their points of entrance forming a triangle. After nuts are screwed down on the outer threaded ends and impacted, these ends are laced together by soft, stainless steel wire, which tends to prevent the pins from slipping out and to keep them from working deeper. The ends of the pins are cut off. The work is guided by x-ray exposures. Intertrochanter as well as cervical fractures are so treated and active motion is immediately encouraged. With the pins locked to prevent sliding out, if necrosis of the neck with resultant shortening occurs, a pin may be forced into the joint. The method requires an operative exposure, but has

many advantages. Moore reports an unusually high percentage of bony union.

Burman¹¹ describes an interesting method, successfully used by Konzett¹² and others, for the guidance in the placement of the three-flanged nail, by gridding the area of the joint by Kirschner wires. After reduction, a series of wires are laid on the skin about one-fourth of an inch apart and approximating the normal angle of the neck on the shaft. An x-ray is taken, the bone exposed and a wire drilled into the head as nearly as possible in line with that wire, or space between two wires, which centers the neck. The Johanssen pin is then entered over the wire, x-rays are taken, the wire removed and the wound closed.

Following the principle that impacted fractures of the neck unite, Henderson¹³ of the Mayo Clinic, has devised a method of firmly pulling the fracture ends together by screw traction, using a lag screw arrangement. This is entered over a Kirschner wire, the large threads engage the head, and a sleeve screw is tightened over a washer, shaped to the trochanter, from the outside. After closing the wound, a plaster spica is applied and worn for two weeks, after which motion is allowed. Since the screw is round it would seem that very firm impaction would be necessary to prevent rotation. A large collection of sterile, seropurulent fluid was reported in several cases, but no bony necrosis has occurred. External fixation seems undesirable to me from the beginning. Henderson¹⁴ feels that his cases are still too few for publication but first results have been excellent. He believes that the mechanical principle of the lag screw is fundamentally correct.

Brewster¹⁵ has reported a method, based on the same principle of screw impaction, used as early as 1920 by the late Dr. E. D. Martin, and continued successfully by himself and others. The method consists of the use of two No. 8 three or three and one-half inch screws, inserted at different angles. Five to seven days of Russell traction are first employed for muscle fatigue. The bone is exposed for about two inches below the trochanter and a five-thirty-seconds inch hole drilled to the fracture line, in the line of the axis of the neck. An x-ray with the drill in place orients one as to correct position and the first screw is entered, the threads engaging the head and pulling it tightly to the distal fragment. The second screw is similarly placed either above or below, depending on the position of the first screw. The fixation is firm, the method simple and the material and equipment cheap. Brewster reports no untoward reaction from the metal of ordinary screws. The method has appealed to me because

of its simplicity, which is always an advantage where one has no group of trained assistants.

Most of my patients have been handled by the use of the pin devised by Smith-Petersen,¹⁶ by the method presented by Wescott¹⁷ and recently adopted by Smith-Petersen himself.¹⁸ More recently I have used the Johansson¹⁹ modification of the three-flanged nail, entering it over the Kirschner wire. This is used by Drs. O'Brien and Scott²⁰ and is popular with many others. So we see that methods vary as to the number of fixation agents used, and they vary as to the size and shape of screw, pins and wires. Some are screwed in, others are driven. In some methods no impaction is used; in some the pieces are driven together; and in some they are pulled together. Some workers use additional external fixation for a time and they vary to those which even allow early guarded weight-bearing. Only time will tell which method or combination of methods proves to be best; however, evidence has rapidly accumulated and been accepted, even by the most conservative operator, that internal fixation for femoral neck fractures is here to stay.

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Discussion

Dr. Barclay J. Moon, Cedar Rapids: I am probably a poor man to open the discussion of Dr. Lohmann's paper because it advocates mainly the use of internal fixation for treatment of fractures of the neck of

the femur, and I have never treated a fractured neck of the femur by internal fixation. The reason for this is that in my type of practice I find it difficult to introduce new methods of treatment until the patients begin to ask for it, and the paramount requirement in the minds of relatives is relief of pain. In the second place we have not been equipped to do open operations for fractures and use the fluoroscope under absolute aseptic conditions. However, we hope in the near future to be ready to do this work.

In reviewing the treatment of fractures of the neck of the femur we find that we have passed through numerous long dark eras. For many years we did nothing but relieve the patient of pain by the use of Buck's extension. Whitman gave us some encouragement by the introduction of the abduction method and the use of the plaster hip spica. With the coming of internal fixation I think the greatest progress has been made. Regardless of what method of treatment is chosen there are certain principles that must be followed: first, there must be complete reduction of the fragments; and second, these fragments must be held in apposition. I believe that the failure in previous years has been due to incomplete reduction of the fragments. It has been customary to take x-rays in the anteroposterior view, but these have frequently been misleading because we only had one view. Recently with the use of the shock proof x-ray tube we are able to get a lateral view by putting the tube on the perineum and holding the leg in abduction. With these two views we are able to control reduction in all angles.

In recent years I have treated most of these fractures by Whitman's method and the Roger-Anderson splint. The Roger-Anderson splint is comfortable in most cases if properly applied, but there is still the problem of nonunion. I believe the reason for nonunion in many cases is that we allow weight-bearing too soon. X-ray check-ups show very little callus in these fractures and not until trabeculations are present can we say that we have union. I find it safer to use an ambulatory splint in all cases regardless of the type of treatment.

Internal fixation is here to stay because it does give us accurate reduction and holds fragments in apposition. From observation and due to the fact that I have had the privilege of seeing Dr. Smith-Petersen work, I believe I would follow his technic. The Smith-Petersen flanged nail displaces very little bone and keeps the fragments from rotating.

Dr. Walter Scott, Sioux City: The change from external fixation to internal fixation in the treatment of broken hips has come within the past ten years, largely through the efforts of Dr. Smith-Petersen of Boston. When he first described his treatment, it was a form of internal fixation by open arthrotomy of the hip joint. Those of you who have done or who have seen an arthrotomy of the hip joint know that it is a formidable procedure. In order that this form of treatment could be applicable to a larger group of cases, it was necessary to discontinue the open arthrotomy and substitute some

other method of attack which was less shocking to the patient. Therefore, during the years there have been devised various other technics based upon blind pegging of the fragments. To date, Dr. O'Donoghue and myself have treated ten patients, and incidentally the last ten consecutive cases which have come to us, by this type of fixation.

Internal fixation does not do away with reduction. An accurate anatomic reduction is imperative. This can be accomplished by the Leadbetter modification of the Whitman manipulation. The operator looks through the portable x-ray fluoroscope to see whether or not the fragments are in place. A wire is placed across the groin in such a manner that it parallels the femoral neck. An x-ray is then taken, and the pilot wire is chosen by an anteroposterior view and then a lateral view. After the nail has been placed the pilot wire is withdrawn leaving the nail in its proper location.

It is almost impossible to tell from an anteroposterior view alone whether or not a hip joint is reduced. Even stereoscopic views are not infallible. We therefore feel that accurate blind pegging of hip joints requires the taking of two views. The patient is draped. The wire has been inserted. The curved casset is placed in the groin, the portable x-ray machine is brought into the room, and the x-ray is taken. This requires about ten minutes for development.

Those of us who feel that this is a new treatment must remember that the groundwork was laid ten years ago. Therefore, it is not a new form of treatment. Those of us who may think it is a coming treatment must realize that it is already here. It is an accepted method of treating the broken hip in this country today.

Dr. W. Eugene Wolcott, Des Moines: In my discussion of Dr. Lohmann's interesting paper, I wish to emphasize four points: first, that accurate reduction is the first necessary step in treatment; second, that firm fixation must be maintained until the x-ray shows restoration of stress lines across the site of the fracture; third, that there is an adequate circulation in the neck of the femur to insure union if accurate reduction has been accomplished and maintained sufficiently long; and fourth, that some method of internal fixation makes for a much higher percentage of union than any closed method which is known at the present time.

For many years most of us were satisfied with the Whitman reduction as shown by the anteroposterior view, but with the introduction of the lateral view films, it was found that very often there was a rotation of the head of the neck demonstrated in the lateral view that was not being interpreted correctly in the anteroposterior view. Recently the Leadbetter's reduction seemed to have corrected this situation in a large percentage of cases. The next all important question was, were we able to maintain perfect apposition, for month after month, particularly in fat, flabby, female patients? Recently we have doubted our ability to do this; therefore, the double spica. To clear this question in my own mind I have

applied the best plaster spica I could after satisfactory reduction had been accomplished. I then opened the fracture site and found that, on raising and lowering the cast by the heel on the fracture side, one could see motion, a definite shearing, at the site of fracture. Such motion may not interfere with union where there is periosteal bone repair, but it certainly is to be prevented where we must depend almost entirely upon endosteal bone repair, or repair by creeping substitution from the neck side into the head, as we do in subcapital fractures of the neck of the femur.

This brings us to a brief discussion of the circulation in the head and neck of the femur. Recently we have been conducting a study of this question by the injection of hip specimens of humans of all age groups. As a result of that study, we are able to say definitely that in approximately twenty-five per cent of all specimens beyond early adult life up to eighty years of age, there is no blood going into the femoral head through the ligamentum teres vessels. In these cases all the nourishment comes in by way of the visceral capsular vessels. These vessels enter the bony structure of the head about one-fourth of an inch distal to the subcapsular area and immediately turn at a forty-five degree angle and go directly to the center of the femoral head. You can readily understand that in subcapsular fractures these very important arteries are sheared off, leaving the femoral heads, (25 per cent) which do not receive blood directly from the ligamentum teres vessels, without nourishment. Under such circumstances, we may expect aseptic necrosis in twenty-five per cent of all subcapital fractures. In these we can only hope for repair after complete reduction, followed by months and months of immobilization. Such a regime allows new blood vessels to creep across the fracture line into the substance of the head. I am of the opinion, at the present time, that adequate fixation to accomplish this can only be maintained by some form of internal fixation of the fragments after a proper reduction. Whether we use the Smith-Petersen type of pin, the blind two pin method of Knowles, or the three pin method of Austin Moore is immaterial. Personally, I prefer the Leadbetter reduction followed by the Moore method because it can be done without a fracture table and it is very simple to redirect and replace the nails if the x-ray check-up indicates they have been poorly placed on the first attempt.

In conclusion, I wish to say a few words concerning the preparation of these patients for reduction and fixation and the postoperative care. We have been able materially to reduce our mortality rate by allowing these patients to settle down for about a week before reduction is done. During that time simple traction is applied so that the patients may sit up in bed. The initial shock of the fracture is combated; fluid balance restored; blood sugar checked and attention given to elimination. After surgery we may find it necessary to go over the same routine again as regards liquid balance, ileus, etc. Following the internal fixation no external fixation is used.

The patients may be up in a wheel chair after a few days and on a raised heel and crutches in from four to six weeks. No weight-bearing is allowed on the fractured hip until definite evidence of bony union has been demonstrated by the x-ray.

LESIONS OF THE ESOPHAGUS

Lantern Slide Demonstration*

ARNOLD M. GORDON, M.D., Des Moines

Lesions of the esophagus are not common. This should add to their interest, however, especially in the presence of a fairly large series of cases. Some of these are from private practice, but the majority are from the gastro-intestinal clinic of Broadlawns General (City) Hospital, Des Moines. This talk is not meant to cover the entire field of esophageal pathology, but rather is a discussion of the lesions represented by the cases at hand.

DIVERTICULUM

This may occur in any part of the esophagus, but especially at both ends. Under the fluoroscope,

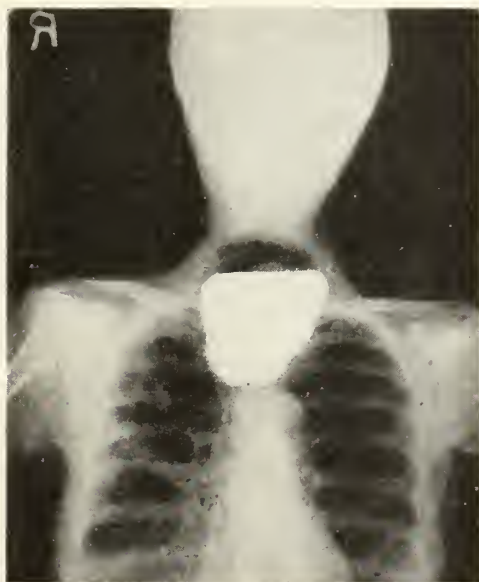


Fig. 1. Diverticulum. Seventy-three year old woman. Dysphagia, and vomiting after meals (undigested food) of ten years' duration. Neck swells after drinking, and looks like a large cystic goiter. Followed a severe automobile accident.

we see a rounded pouch of barium, overflowing into the esophagus through an opening at one side; it remains partially filled after the remainder of the meal has passed on. The most common site is at the junction of the pharynx and esophagus. It is congenital in origin, and represents a hernia of

mucous membrane through a muscular defect. Like hernia elsewhere, it may not become manifest until later in life when some unusual exertion acts as the exciting factor for the production of the actual hernia.

Symptoms: There is usually a long history of regurgitation of food (undigested), some time after the meal. The size may range from that of a pea to that of an orange. In one of our cases, it was large enough to cause difficulty in breathing and swallowing, from pressure on the trachea and esophagus.

X-ray: In the anteroposterior view, we see an opaque semi-circle, with a horizontal fluid level; it moves upward during swallowing. In the oblique projection, barium is seen to spill over and run down into the stomach. If filled with food at the time of the examination, barium will not enter, so that if the history suggests the diagnosis, x-ray study should be repeated. The diagnosis may also be made by esophagoscopy. (The type of lesion discussed here is classified as pulsion diverticula, since they are due to pressure from within. Traction diverticula, on the other hand, are due to pulling from without. These are unimportant, and seldom seen by x-ray. They are acquired, and follow the breakdown of tuberculous glands at the bifurcation of the trachea. They look like small spurs projecting from the esophagus.)

Treatment: Surgical removal is the treatment of choice for diverticula in the neck. The opening of those in the chest may be widened by instrumentation; symptoms being due to retention of food within the sac, with development of inflammation or ulceration, may be relieved by affording satisfactory drainage by the method advocated. They may also be washed out by a tube.

DIVERTICULA OF THE EPIGLOTTIC VALLECULAE

"Vallecular dysphagia": The epiglottic valleculae are two depressions situated between the base of the tongue and the epiglottis, one on each side of the glosso-epiglottic ligament. From their appearance, it would seem that during the swallowing act, particles of food would be held back by the epiglottis and become lodged in the vallecular depressions. X-ray study has shown that this does not occur normally. However, as soon as any interference with deglutition occurs, as in paralysis, one sees appreciable amounts of food remaining in the valleculae, and occasionally also farther down, in the pyriform sinuses, alongside the thyroid cartilage. Several such cases have been described; they have occurred in paralysis of the vagus or recurrent nerve, as from diphtheria, botulism, mediastinal tumors, and central nervous system lues. Holzknecht showed pre-epiglottic retention

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in neuropathic persons due to unusual relaxation (atony) of the entire esophagus. Two cases of pre-epiglottic diverticula were reported by Goldmark and Scholz.¹ These authors point out that there can be no doubt that the ability of the epiglottis to bend back sufficiently during swallowing prevents food from collecting in the pre-epiglottic space, and that it must possess a certain amount of elasticity at all times. (This impor-



Fig. 2. Vallecular Dysphagia. Sixty-five year old man. Dysphagia, a few months' duration. Sensation of a foreign body in the throat. Felt that he had probably swallowed a fish or chicken bone.

tance is shown by the fact that calcification never takes place in this cartilage). With advancing age, it may be that elasticity may occasionally decrease below the requisite minimum, in which case, particles of food accumulating in front of the epiglottis may gradually lead to the production of a diverticulum.

Symptoms: There is a feeling of a lump in the throat after eating, with discomfort on swallowing. In addition, there may be occasional regurgitation of foul material (decomposed food), swelling in the submaxillary region, and local tenderness.

Diagnosis: Fluoroscopically, we see an enlargement of the pre-epiglottic space, as outlined by barium, unusual spastic contractions of the epiglottic region, and persistence of a barium residue for several hours.

Therapy: Discomfort may be relieved by frequent gargling after meals, and swallowing water after meals. Also, a little water before eating may fill the space and keep food from entering. The importance of recognizing this condition is mainly to realize that we are not dealing with esophageal cancer or other serious disease.

CARCINOMA

Carcinoma of the esophagus represents seven per cent of all carcinomas found at autopsy. It is the most common lesion of the esophagus. Other tumors are extremely rare. It occurs, with insidious onset, in late adult life.

Symptoms: Increasing difficulty in swallowing, usually without pain, is the first symptom noticed. There may be epigastric pain, anorexia, belching, or hiccups. Signs of starvation develop as the disease progresses.

X-ray: The outline of the esophagus shows a constant, annular deformity, with ragged edges. There is little or no dilatation above, in contrast to benign stricture and cardiospasm. Peristalsis is less likely to be present than in benign lesions. The patient may complain of pain during examination, and may have difficulty retaining the barium, especially if the lesion is high. Benign lesions do not produce this reaction. The differential diagnosis lies between spasm and benign stricture. In very early malignancy, x-ray will not show it; there may be only localized spasm; hence, if the complaint is dysphagia, and x-rays are negative, esophagoscopy should be done.

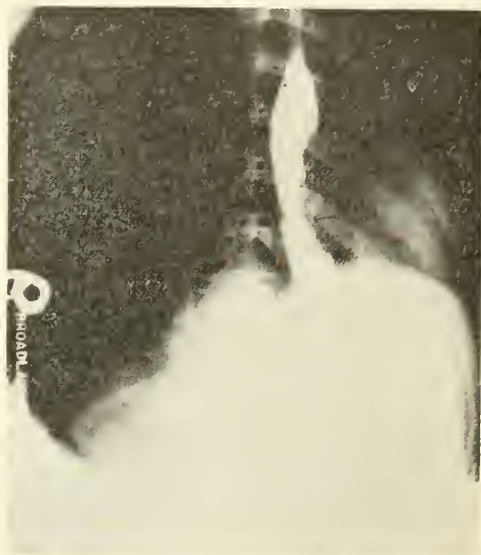


Fig. 3. Carcinoma. Fifty-three year old woman. Dysphagia, vomiting (blood streaked), loss of weight and strength of six months' duration. Gastrostomy.

CARDIOSPASM

The esophagus may be greatly dilated. It has a smooth outline. The shadow ends at the cardia in a smooth, funnel-shaped appearance. There is visible peristalsis, a phenomenon rarely seen here otherwise. The meal may be delayed above the

cardia for hours or days. Hurst has shown that we are dealing with a failure to relax, rather than a true spasm (the esophagoscope passes easily through the cardia), and named the condition achalasia of the cardia. The condition may appear at any age. It is always associated with dysphagia. There is a long history of gradually increasing difficulty in swallowing. Antispasmodics have no effect. The passage of a heavy bougie is necessary. Olive-shaped metal tips of gradually in-

seem to have the power to injure the deeper portions of the esophageal wall, and very small quantities of a solution of lye may produce multiple dense strictures.

2. Infections of childhood.
3. Typhoid.
4. Vomiting of pregnancy.
5. Following removal of foreign body.

Strictures of ordinary inflammatory origin are usually single, short, and not particularly dense.

B. Of Unknown Origin

This is the more common group; cases were formerly thought to be rare, but it is now known that they occur rather frequently. Vinson² reported 40 patients. There is usually marked dilatation above the stricture. The esophagus below the stricture is normal in size and outline. Peristalsis may be noted above. The outline is smooth, and frequently cone shaped.

Differential diagnosis: It differs from spasm by its constancy; from diverticulum, by having the opening at the lowest point; and from carcinoma, by the smooth outline, degree of dilatation, and the possibility of its being multiple. In benign stric-



Fig. 4. Cardiospasm. Thirty-nine year old laborer. Dysphagia of fourteen years' duration. Intermittent. Followed a bee sting on the scalp. Pain in the left chest and arm for one week.

creasing sizes, on a whalebone handle, are guided by previously swallowed silk thread. This is followed by the hydrostatic bag. There may be some pathologic condition of the vagus, because psychic therapy alone is not effective. There is apparently some organic change involving the neuromuscular control of the sphincter, since degenerative changes have been found in Auerbach's plexus in the lower esophageal wall. The difficulty in swallowing may or may not be accompanied by pain in the throat or chest. Vomiting usually develops later. If the esophagus has dilated, the vomiting occurs after some hours. Early cases may respond to increasing the intrathoracic pressure; with one hand on the table, make a forced expiratory effort, keeping the mouth and nose closed; this is done standing, and after drinking several glasses of water.

STRICTURE

A. Of Known Origin

1. Caustics, such as household lye, whether suicidal or accidental in nature. Caustic substances

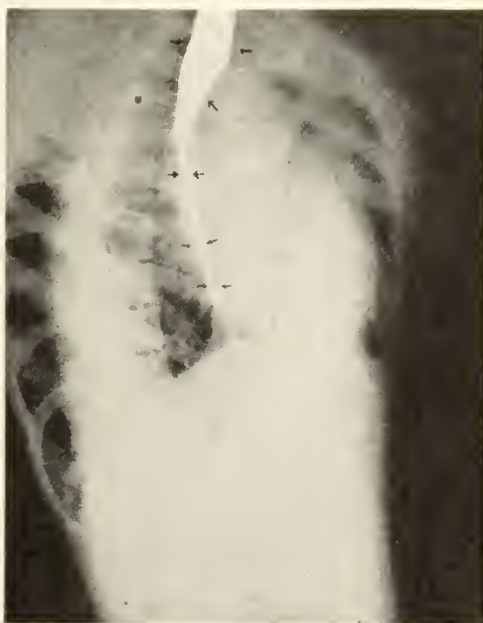


Fig. 5. Stricture from Caustic. Fourteen year old girl. Swallowed lye.

ture, we have a combination of a rather long history of dysphagia, without marked progression, in a patient who is fairly well nourished. Benign stricture usually appears in the lower third. It is most often single and short. Dysphagia is the out-

standing symptom. There may be pain, and the regurgitation of blood. Biopsy should be done to rule out malignancy.

Treatment: Dilatation (instrumentation) is the best form of therapy. Vinson states, "It is some-



Fig. 6. Benign Stricture of Unknown Origin. Thirty year old woman. Operation for removal of polyps (?) from the throat at age 13. "Gastric" symptoms ever since. Thyroidectomy (done elsewhere) without relief. Choking spells, mucus in throat, dysphagia, vomiting, symptoms present every day for three years (operation three years ago).

times impossible to prove the presence of carcinoma by microscopic examination of tissue removed from the esophagus. If one is inclined to advocate gastrostomy in the treatment of carcinoma of the esophagus, it is likely that a needless operation of this type will be done on some of the patients who have benign stricture of unknown cause. However, if one recommends dilatation of malignant, as well as of benign, esophageal strictures, it follows that all cases of benign stricture will be properly treated, and that the elapse of sufficient time will settle any question as to the accuracy of the diagnosis."

FOREIGN BODIES

There is a subjective feeling of something being stuck in the throat; this may be followed by dysphagia. The history may be misleading, especially in children. Ulceration and perforation occur in many cases, but foreign bodies may remain for some time without causing complications. Most foreign bodies which pass through the esophagus will clear the gastro-intestinal tract if the patient

is kept on his regular diet, and bulky foods and cathartics are avoided.

Chevalier Jackson finds foreign bodies in the esophagus and trachea in the following order of frequency: first, bones; second, coins; third, safety pins; fourth, artificial dentures; and fifth, buttons. With bones, foods, coins, safety pins, and buttons, 95 per cent were found in the esophagus; the other five per cent were in the larynx and trachea. However, 97 per cent of the straight pins were found in the larynx and trachea.

Flat, opaque bodies are always found to lie in the coronal plane when in the esophagus, and in the sagittal plane when in the larynx (occupying the longest diameter), a fact which aids in the diagnosis by x-ray. The most common location of foreign bodies in the esophagus is on a level with the clavicles. Barium in liquid form, paste, or capsules, helps to locate the non-opaque foreign bodies.

ESOPHAGEAL HIATUS HERNIA

This is also known as diaphragmatic hernia, (a special form of) para-esophageal hernia, and the "recurrent hiatus hernia syndrome of von Bergmann." This affair is much more frequent than is generally supposed. It accounts for many cases of substernal discomfort for which no other etiology can be found. It is usually not demonstrable with the patient in the erect position, and is often missed with the patient in the prone position. The Trendelenberg position is required to bring out the lesion in most cases; the cardiac portion of the stomach, containing barium, will then be seen to herniate through the esophageal opening in the diaphragm into the chest. It is found in older individuals. The tissues adjacent to the esophagus as it passes through the diaphragm, are abnormally lax (senile, atrophic changes, with loss of tone). Increased intragastric pressure completes the etiologic mechanism, just as hernias are produced in other parts of the body. Microscopically, there have been described degenerative changes in the ganglion cells of Auerbach's plexus, accompanied by round cell infiltration between the fibers.

Symptoms: Clinically, the symptoms may resemble those of gastric ulcer or gallbladder disease, but most prominent, as a rule, is substernal distress and pressure; it may be anginoid in type, with pain referred to the left shoulder and arm. Dysphagia may be present. Pain may be epigastric, or may be referred through to the back. Night pain is typical, all symptoms being aggravated when the patient reclines, and relieved when he is

up and around. Regurgitation of food, or actual vomiting may occur. Inflammation of the involved area may lead to peptic ulcer here.

X-ray: The herniation may be intermittent, and so may be missed on the first examination. Examination under the fluoroscope in various positions, especially in the Trendelenberg position, in both phases of respiration, is important. The size of the hernial sac is usually about that of a walnut, but may be much larger. It must be differentiated from carcinoma, spasm, and diverticulum. In one of our cases, fluoroscopy showed an air bubble with fluid level and density below in the lower thorax, resembling lung abscess; the true nature of the lesion was apparent when barium was given.

Treatment: Operative treatment is usually not necessary. The patient should have small evening meals, with nothing to eat after this meal. He



Fig. 7. Esophageal Hiatus Hernia. Sixty-nine year old woman. Epigastric pain for twenty years. Worse after eating. Belching, violent hiccups, occasional vomiting, night distress.

should sleep with the head elevated on several pillows, or with blocks under the head of the bed. Tight abdominal belts or garments are to be avoided. Flatulency is controlled by smooth diet, and sometimes with diastase, charcoal, or colloidal kaolin. For associated inflammation or ulceration, belladonna and alkalies are used. If symptoms persist in spite of these measures, the patient should be advised to get out of bed and walk around, and drink water. This will seldom be necessary, however, if the above measures are carried out.

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THE X-RAY BECOMES AN ADJUNCT TO OTOLARYNGOLOGIC THERAPY*

LLOYD G. HOWARD, M.D., Council Bluffs.

Compared with the resources available to those who practiced medicine only one-half a century ago, our present wide range of therapeutic possibilities represents progress greater than what had occurred in the entire course of recorded medical history previous to that day. Yet there are in our specialty, as in others, so many conditions for which our best treatment seems ineffective. Dr. A. G. Pohlman,¹ who is well qualified to speak concerning deafness, once told me that the treatment for catarrhal deafness, except for minor technical changes, had been improved upon but little in the past two hundred years. The example just given may be unusual. Nevertheless there are a great many diseases of the head and neck for which we are required to prescribe medical or surgical treatment and for which all of us realize the inadequacy and ineffectiveness of our therapy. Perhaps we have considered these things for too long from the head specialist's point of view. I feel that the following discussion may substantiate this theory.

For some time I have felt that the x-ray was useful in my own specialty chiefly as a diagnostic aid, and that irradiation was of only minor therapeutic value in any department of medicine or surgery. Of course there have been occasions when the x-ray seemed to do strange things and to exert almost magic healing power. All of us have had such experiences. The following example is typical. A very sick four-year old boy with extreme mastoid tenderness and edema, a profuse purulent discharge from the ear canal and a high temperature, recovered forthwith after diagnostic exposure to roentgen rays. There was no other possible cause for the sudden regression of his symptoms. Other similar events recall themselves to my memory, and I am surprised now that they did not arouse my interest in the possibilities of irradiation therapy much sooner than such interest did become active. I finally realized that a valuable therapeutic agent lay at hand ready for the using. However, when the search for definite technical advice and indications for the use of roentgen therapy was begun, and I looked through the journals of my own specialty, I found little if any assistance. In this country only a few otolaryngologists have investigated the subject and still fewer in number are those with actual experience who have reported the results of irradiation on their own patients. In fact, its immense

* Presented before the Eighty-sixth Annual Session, Iowa State Medical Society, Sioux City, May 12, 13 and 14, 1937.

value as a therapeutic agent is realized by surprisingly few, outside of the x-ray specialty itself.

An internationally known roentgenologist, Dr. Desjardins² of The Mayo Clinic, to whom I had written for information on the subject, and of whom I inquired concerning the susceptibility of certain ear, nose and throat conditions to this form of treatment, replied to my questions as follows: "... very few of the cases of most of the conditions mentioned in your letter have been referred to us for treatment . . . The main reason why cases of this kind have not been referred to us for radiotherapy appears to be that the members of the section on ear, nose and throat diseases are not familiar with the reports in the literature bearing on work of this kind, and are unaware of the possibilities it holds as a therapeutic agent. One difficulty is that such reports usually appear in publications dealing with radiotherapy and are seldom seen by specialists in ear, nose and throat conditions." Dr. Desjardins' words very concisely explain why the rank and file of ear, nose and throat men have little knowledge of and take no advantage of irradiation therapy. We find almost nothing concerning this form of therapy in our own special publications and hear little if anything about it at our general meetings. However, certain roentgenologists have done much experimental and practical work during the past decade and there is, as a result, a considerable amount of information to be found in their publications.

To anyone familiar with the etiology and pathology of diseases of the ear, nose and throat, irradiation suggests much that seems not altogether rational. Undoubtedly there has been a certain amount of work done on the subject which has not been worked out under properly controlled conditions and hence is impossible of evaluation. Nevertheless many scientifically proved data may be dug out of the literature, and with the assistance of a capable and interested roentgenologist one is enabled to give increasing numbers of patients the benefit of a new, economical and effective form of treatment. Having used the experience of others as a guide and after studying my own successes and failures, I feel neither overly optimistic nor the opposite. It simply appears to me that here is something of great therapeutic value which, unless accepted and used by otolaryngologists, will be used therapeutically on susceptible cases by roentgenologists or physiotherapists.

Roentgenology has existed as a science for only a few years. The effect of x-rays upon the skin was discovered rather early and, because of occasional severe burns caused by over exposure, irradiation is, even today, regarded with consid-

erable skepticism by both physicians and laymen. Many of the pioneer investigators who were unaware of the danger inherent in repeated exposures to the rays, developed malignancies of the hands and arms. As time passed, and the effect upon tissues became better known and more accurately predictable, it became possible with proper distance, screening, timing and the exact calibration of tubes and machines, to make use of the reaction of susceptible tissues to the x-ray. In other words, the harmful rays became potentially benign when properly used in selected pathologic conditions. Investigators here and abroad have for years been aware of the peculiar reaction to irradiation which is shown by young or embryonic tissues. Likewise the effect upon glandular structures, the skin, the spleen, bone marrow and lymphatic tissues and upon leukocytic or lymphocytic infiltrations, has been carefully studied practically and experimentally; and while it is true that much of this experimental work has not been built upon a scientific foundation, and some has little value because of poorly kept records or histories, and while all of it requires study and correlation, there remains a substantial amount of carefully controlled, honestly recorded work, which is far more than is necessary to prove the value of this form of therapy.

In considering the use of irradiation upon lesions of the head and neck it seems logical that such pathologic conditions or diseases should be grouped according to the susceptibility, which, as individual entities, they exhibit to irradiation, and the manner in which they react to irradiation. Hodges and Berger³ follow this method in classifying certain infections treated by irradiation. They place those which are sufficiently amenable to x-ray so that no further therapy is necessary, in Group I, which comprises:

1. Early localized erysipelas in adults.
2. Furuncles and furunculosis.
3. Infected hemangiomas.
4. Cellulitis of certain types:—
 - a. Ludwig's angina.
 - b. Phlegmons of neck and floor of mouth.
5. Lymphangitis, cervical adenitis.
6. Mikulicz's disease.
7. Parotitis.
8. Rhinophymas.
9. Granulomas.

Group II, in which irradiation is used as an auxiliary to other treatment, consists of:

1. Carbuncles.
2. Blastomycosis.
3. Sporotrichosis.

The list of infections involving soft tissues of

the head and neck, as reported by Hodges and Berger, ends with the three last mentioned. However, other authors report additional entities, which logically belong in the same group (comprising infections in which irradiation is considered as supplemental to, or as an auxiliary to our usual method of treatment; such as acne vulgaris, thrombophlebitis, as, for example, when it is a complicating sequel to furuncles of the upper lip or ala nasi. Others will be named as our thesis develops.

Aside from the infections named, irradiation has given me favorable results in such conditions as chronic simple laryngitis. Infectious chondritis or perichondritis involving the laryngeal cartilages during a phlegmon of the neck, in which tracheotomy was necessary, and wherein granulation tissue overgrowth caused complete obstruction of the lumen, cleared up perfectly following irradiation. All other treatment previously used had proved ineffective. Used as an adjunct to surgery, keloidal scars so treated responded favorably in a fair percentage of cases. The following diseased conditions are enumerated with, for the present, no other comment than to state that they are typical of conditions which may be greatly aided by the proper use of irradiation as an auxiliary or supplemental aid to our usual other therapy.

1. Certain types of rhinitis.
2. Certain forms of nasal accessory sinus disease, both acute and chronic.
3. Purulent otitis media, both acute and chronic.
4. Purulent mastoiditis, both acute and chronic.
5. Chronic adhesive otitis media, catarrhal otitis media chronica, tubal catarrh, etc., wherein lymphocytic or leukocytic infiltrations in the nasopharynx, tube and middle ear are important factors in perpetuating the pathology.
6. In the treatment (as a result of No. 5) of certain forms of deafness and other auditory complications.
7. For such external ear involvement as:
 - A. Perichondritis.
 - B. Hematoma of the external ear.
 - C. Eczema and tuberculosis of the external ear.

These diseases really comprise a fair percentage of those pathologic conditions which the average ear, nose and throat man attempts to treat. With a reasonable amount of time devoted to the study of irradiation therapy, when it is indicated, and the rudimentary technic involved, and with carefully recorded case histories to aid in charting one's future course, any of us should soon develop fair judgment. I believe that this quality is es-

pecially valuable, because the ability to select those cases which will respond to this type of therapy, and to steer clear of those patients who desire irradiation but who, in your opinion will not respond satisfactorily to it, depends largely upon this basic knowledge, possession of which will most certainly save any one of us much worry and from having many displeased patients.

Since it is impossible to consider each of these pathologic conditions separately, and to analyze each particular lesion, considering the rationale or the reason for what occurs and, in each, to give the technic of treatment, followed by a detailed account of the reaction commonly obtained, I believe it is better to choose only a few representative conditions for discussion. In an acute infection, such as a furuncle, there first occurs a sudden bacterial invasion of the tissues. The classical symptoms of heat, pain, redness and swelling are presented. A certain localized area has been swamped by invading organisms and by their toxic products. The body defenses are mobilized and produce a circumscribed area of inflammation. Lymphocytic or leukocytic infiltration occurs, together with autoproduct of immune bodies, antitoxins, bacteriolysins, etc. As a result, in favorable cases, the invading organisms are destroyed and resolution occurs. Treatment with x-rays produces the same result. Radiation causes an immediate disintegration of the leukocytes, which, by infiltrating the tissues, have produced so much of the tenseness and painful induration. Almost immediate lessening of pain results on this account. At first thought it would seem that the destruction of these leukocytes would mean the loss of the first line defense against the coccus infection. However, this lymphocytic disintegration releases antitoxins and bacteriolysins which were held within the leukocytic structure and these forces are immediately free to attack the invading organisms. In the cases reacting most favorably to the treatment, regression occurs without focal softening and with disappearance of fever and pain by crisis or rapid lysis. In a second class of cases where a cure is not completed at once or during the three to six days of heightened resistance and increased bacteriolytic power, a second or even a third treatment may be indicated.

Heinecke has demonstrated that roentgen rays, *per se*, have no subversive effect on pathologic organisms in culture, but that the destructive action following irradiation is due to a secondary manifestation following the effect of the rays on the leukocytes or lymphocytes. It has been demonstrated that if a centrifuged leukocytic suspension is irradiated, the resultant solution has effective bactericidal and bacteriolytic power. Some ex-

perimenters suggest the liberation of ferments into tissues and their catalytic effect then stimulates antibodies and antibody formation. Others mention the protein effect resulting from the absorption into the tissues of disintegrated lymphocytes, while some intimate that an altered electrocolloidal and metabolic change takes place within the cells.

I have only a few statistics for presentation. However, reputable men with large experience report results which, as in the case of Hodges and Berger, bring them to advise irradiation, properly used, as the one acceptable form of treatment in certain lesions. In this presentation my purpose is not to arouse controversy. I wish only to introduce an effective therapeutic adjunct to you. Eczema has been treated successfully in certain cases—especially those occurring secondary to an infection such as a purulent discharge from the middle ear. Perichondritis of the external ear responds favorably; of six cases treated, four were improved and two were cured. Forscher and Regnier⁴, in 1925 reported 28 cases of hematoma of the external ear. All but two were cured. They explained these unusual results by the remarkable effect of x-rays on young connective tissue, and advised using x-ray therapy early, soon after formation of the hematoma. They feel that it is superior to surgery.

Tuberculosis of the external ear was treated by Dionisio with good results. He treated 20 cases of purulent otitis media chronica in 1906 of which sixteen were cured, and the hearing of all was improved. In 1921 Beattie⁵ treated sixteen cases of subacute and chronic purulent otitis media, all of which were either cured or improved. Dempster⁶ obtained cures in fifteen cases of chronic purulent otitis media. One case of ten years' duration responded to four treatments. Five cases required only one treatment. The type of organism was found to be unimportant. Di Donato⁷ in 1926 cured the majority of 75 cases of chronic purulent otitis media. He found an early increase in the amount of pus discharged, followed by a secondary decrease. My personal experience in the treatment of chronic purulent otitis media with x-ray is limited to a few cases thus far. Excellent results were obtained in six students from the Iowa School for the Deaf, who were treated for chronic otorrhea. The discharge, which had been very foul and profuse, soon lost its offensive odor and in four of the cases complete cure was obtained. I have had little experience with the use of x-rays in acute purulent otitis media or mastoiditis.

Yocom⁸ in 1925 reported 33 cures in 35 cases of subacute and chronic mastoiditis. Lucinian⁹ reports his experience with roentgen ray treatment

of 50 cases of otitis media purulenta (31 acute, eight subacute and eleven chronic). These were irradiated over the ear and mastoid area. The treatment was consistently followed by relief of pain, increased discharge, improved hearing and amelioration of the systemic manifestations of the disease. After the treatment none of the acute cases developed mastoiditis or perforation of the drum and none required myringotomy. In nine cases mastoiditis was already present when the rays were applied. Two of this group later required mastoidectomy. The symptoms associated with chronic otitis media, such as persistent discharge of years' duration, pain, tinnitus and deafness, were improved or eradicated. The healing of perforated membranes was definitely accelerated. Observation of these cases indicates that the earlier in the course of the disease the treatment is applied, the sooner improvement occurs. As a control on these 50 cases, twenty-five unselected cases of acute and chronic otitis media in which roentgen therapy was not applied, are reported upon. Perforation of the drum occurred in five, mastoiditis developed in nine, mastoidectomy had to be performed in five and myringotomy in eleven. It appears then that roentgen therapy, properly applied, in both acute and chronic otitis media shortens the course of the disease and prevents complications. In no case was a deleterious effect observed.

In the literature I find large numbers of cases of chronic catarrhal deafness, otosclerosis, tinnitus and impaired hearing reported by various authors. In general, and without going into detail, it appears that slightly more than fifty per cent were cured or definitely improved. It is difficult to imagine otosclerosis being affected favorably by the x-ray. Nevertheless, reputable observers report such results in a few cases. In a large percentage where tinnitus was complained of as a major symptom from whatever cause, relief was experienced from the continuous and nerve-wracking head noises. These results compare in most ways with those of impaired hearing which I have treated. Without audiometric data it is not always possible correctly to judge the exact amount of improvement obtained. These data are being collected on the cases under treatment, however, and I hope to be able to report the results of treatment, when thus measured, to you at some future time. Desjardins¹⁰ has collected and studied reports on hundreds of such cases, (as reported in the literature). Many of these were improved; in some the progress of the disease became stationary and a few were entirely cured. Tinnitus was relieved in the greatest number. He finds the evidence difficult to analyze and occasion-

ally of uncertain value, when the reports of earlier experimenters are considered. Desjardins does believe, as a result of his own personal experience and from the reports given by others, that irradiation may favorably influence tinnitus, and that it occasionally has had more or less effect on cases with impaired hearing. The benefits derived appear to be due to the effect of the rays on the leukocytes or lymphocytes infiltrating the lesions around the ear, throat and nasopharynx, which may be either partially or wholly responsible for the auditory symptoms. Softening of fibrous or scar tissues in the drum, ossicular chain and middle ear structure, may be a second cause for improvement. The recorded instances of cure prove that x-rays may often render useful and sometimes great therapeutic service.

During the past year, with the assistance of our roentgenologist, I have treated twenty-two patients from my private practice, who were suffering with acute or chronic nasal accessory sinus disease. X-ray plates, which were taken as a routine measure when treatment was begun, and again when it was finished, showed radiopacity of one or more of the sinuses in all of these cases. Pain was the most common symptom complained of by sufferers from acute sinusitis, with nasal obstruction a close second. In all of the acute cases pain was completely relieved, usually within a few hours. The involved sinuses shortly began to empty and these early cases responded to irradiation in a manner surprising to a rhinologic observer. As a rule one treatment is sufficient in the acute cases. The chronic cases consisted of patients with variously involved sinuses. They complained of such symptoms as pain, headache, sphenopalatine neuritis, nasal obstruction and purulent discharge. During the course of their wanderings in search of relief some had had almost every conceivable type of nasal operation performed. Relief of pain, improvement of nasal and sinus ventilation, and lessened amount of discharge were fairly characteristic responses to irradiation. These patients as a rule require three or four treatments at intervals of one month. Of the twenty-two cases, seventeen were improved or symptomatically cured; five were unimproved, possibly because of being unsuited for this form of therapy, although one or two did not cooperate or finish treatment. A striking result was obtained in the case of a Nebraska lawyer. For years he had suffered from a profuse purulent nasal discharge, headaches and nasal obstruction. He had a most offensive, fetid breath. Crusts and scabs, which he found it impossible to remove completely from the nares, were a source of continual annoyance. His general health suffered.

He was also developing a chronic laryngitis as a result of his postnasal discharge. After one irradiation he was relieved of headache and pain. The nasal secretions increased in amount, became thinner and the crusting disappeared within two weeks. He was simultaneously relieved of the foul breath and, although very skeptical when first advised to submit to sinus irradiation, is now one of the most voluble and loyal partisans imaginable.

Another variety of nasal pathology, which seems to respond unusually well to irradiation, is illustrated by the case of a six-year old youngster with an allergic nose, who was a constant sufferer from colds and nasal obstruction. Both maxillary and both ethmoidal sinuses were opaque. A complete cure was apparently obtained both objectively and subjectively in his case. X-ray plates taken after treatment was completed were clear. As a rule gross nasal pathology should always be corrected in adults with subacute or chronic trouble. Symptoms abated but a cure was not obtained in one patient, sixty years of age, with chronic empyema of the left maxillary sinus. This patient suffered from headaches and nasal obstruction, both of which cleared up under treatment. The left maxillary sinus, however, remained opaque and continued to drain. He refused operation. We should have insisted upon intranasal sinus drainage through an antromeatal resection as a preliminary to irradiation, and intend to do so in similar cases treated hereafter. My experience coincides with that of others, in that hyperplasias of the mucous membranes, both intranasal and intrasinus, with or without profuse discharge, headache and obstruction, seem to respond well. Those patients with polypoid degeneration or advanced pathology, or who have had repeated operations, do not respond so well. They do improve surprisingly, however, at times. Allergic cases, especially those with nasal infection, give excellent results to this form of therapy.

The basis for improvement, in conditions such as have been previously mentioned, is explained when biopsy material is examined histologically. There is destruction of the lymphocytic cells which have infiltrated the mucosa. Migration and proliferation of histiocytes follows, accompanied by fibrosis of infected glandular tissue and shrinking of the mucous membranes. Mechanical improvement in nasal and sinus ventilation is an important sequel, since in any pathologic nasal condition, either acute or chronic, free ventilation is essential before relief or cure may be obtained. In its bare essentials the technic of irradiation treatment, which should always be given by an experienced roentgenologist, consists, first, in carefully cali-

brating the machine, using the Victoreen gauge or the ionization process, so that its individual output is known. Every patient is tested for dermal reaction to x-rays, usually on the skin of the arm or thigh, and the dosage to be used is selected from the area showing no reaction. The dosage consists of 100 to 120 kilovolts filtered through three millimeters of aluminum and the patient is never given more than 350 *r* units measured in air. Treatment is directed to the various diseased tissues through ports in a lead mask. Thus one sinus may receive treatment, while the rest of the face is protected, and as the irradiation progresses, treated areas are covered by the mask and a new portal opened for passage of rays to other areas. Each case is individually studied and each disease entity is likewise studied and treated individually.

In conclusion, I wish only to reiterate that in this country and abroad the roentgen ray has been used by men of genuine scientific ability to treat certain diseased conditions, which logically should receive therapy under the supervision of the head specialist. Most ophthalmologists and otolaryngologists are, apparently, unaware of the progress which has been made and of the results which irradiation gives in susceptible cases. The results in properly selected and properly treated cases are so satisfactory both from the viewpoint of the therapist and the patient, that patients will soon demand such treatment. Because irradiation offers so much as an adjunct to otolaryngologic therapy, members of our specialty should study its possible use carefully and should endeavor to become sufficiently familiar with the technic of irradiation that they may cooperate with the roentgenologist in using it upon favorable cases.

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Discussion

Dr. J. K. von Lackum, Cedar Rapids: Having recently added an x-ray machine to my office equipment, this subject is of great interest to me. Recent studies have included such type of work, but these reports have only been found in x-ray texts and journals. Throughout the essay, Dr. Howard has hit the keynote which should interest all of us in this speciality. The x-ray, discovered by Wilhelm Conrad Roentgen in 1895, has too brief a history to enable us to view this subject in a true historical

perspective. The therapeutic use of the x-ray began with the report of Freund in 1897, of the removal of hair from a hairy nevus, although Despeignes had reported in 1896 that he had exposed the abdomen of a patient who was suffering from cancer of the stomach to x-ray. Then came reports from Europe and America on the treatment of tinea, acne and lupus vulgaris before 1900.

Although my own experiences with x-ray therapy have been limited, very favorable results have been obtained in cases of acne, tinea, facial erysipelas, actinomycosis, and one severe suppurative mastoiditis.

Two cases may be of interest to you. The first patient was a girl seven years of age. When seen, her temperature was 103 degrees, and she had a bulging red left ear drum. A myringotomy was performed, and all symptoms improved within twenty-four hours. Two days later the patient's temperature rose, and the right ear drum was bulging. Myringotomy was repeated and the temperature fell to normal on the next day. Both ears responded well for three days, when there was another rapid rise in the temperature, accompanied by a profuse discharge from the left ear. A mastoidectomy was performed on the left ear, and the temperature was normal in four days. However, there was a sudden rise in temperature in another four days, although there was no change in the operated mastoid. A second myringotomy was done on the right ear drum, and thick pus was obtained, after which the temperature fell to normal. The patient was discharged from the hospital and went to Miami Beach, Florida, where she was comparatively well for one week. At that time the temperature rose suddenly. She was given conservative treatment for three days, until her temperature fell to 100 degrees. X-ray therapy was instituted at this time, and an uneventful recovery followed. There was no recurrence of ear trouble, and the patient has gone through the past severe winter with many colds.

The second patient had had a wisdom tooth pulled and the area remained painful until an x-ray showed the root still present, and a marked submaxillary adenitis. The dentist reopened the wound and removed the root, but the maxillary glands continued to increase in size. The patient came to my office with a firm rounded, somewhat movable mass at the angle of the left mandible, extending underneath into the submaxillary area. Fluctuation was questionable, and a tentative diagnosis of osteomyelitis and possibly actinomycosis, was made. Laboratory reports after drainage established a definite diagnosis of actinomycosis. The patient was given iodides and x-ray therapy, and has been cured to date.

For some time most of us have been willing to believe that x-ray therapy could benefit conditions whose underlying pathology was an overgrowth of lymphoid tissue. Because x-rays will not kill bacteria in test tubes, we have been loathe to accept this treatment as a proper remedy for infections; but established facts cannot be denied. Those who,

like Dr. Howard, have seen erysipelas disappear like magic under x-ray therapy, can have no doubt that radiation is a most potent remedy in many infectious conditions.

Doses of 150 to 350 *r* units are very small. Expressed in terms of the full physiologic effect, they might be compared to doses of morphine 1/64 to 1/32 grain in size. As Dr. Howard has pointed out, such doses are entirely safe, when they are compared to doses of 2500 to 6000 *r* units which are used when the full destructive powers of x-rays are loosed in the treatment of malignant disease. As Dr. Howard has indicated, accurate measurement of x-ray dosage is essential, not only to prevent overdosage but to insure adequate dosage at all times. In this country, because of the painstaking work of Ottoglasser and others, it has been possible since 1925, to measure the intensity and quality of an x-ray beam with an error of not more than plus or minus one per cent on the skin, and plus or minus five per cent of various depths within the tissues. Such exactness compares favorably with the measurement of drugs used in modern hypodermic medication.

Our backwardness in this therapy is probably due to the fact that current progress is only published in x-ray journals. The essayist deserves much commendation for his article and for the studious analysis which he has made of the question.

In view of Dr. Howard's results, may I suggest a closer cooperation with roentgenologists further to advance this new therapeutic adjunct. In addition, I feel if we are to gain any worthwhile statistics, such therapy should be used without any other type of treatment. Only in this way will we be able properly to evaluate results.

Dr. Cecil C. Jones, Des Moines: Dr. Howard's presentation is very good and apropos inasmuch as it emphasizes the efficacy of a form of therapy with which many men in our field are not familiar. However, this form of therapy requires the cooperation of a roentgenologist who understands the pathology in each entity and is capable of determining the dosage and frequency of application required in that individual case.

The only criticism of Dr. Howard's paper is that it includes too many pathologic conditions. It is difficult to understand how otosclerosis or a hematoma beneath the perichondrium of the auricle could be benefited by x-ray. Moreover, it is difficult to comprehend how x-ray could relieve, permanently, a tinnitus. In my own practice, I have reserved this form of therapy for those conditions which I know will respond favorably, and for which we do not have a superior adequate therapy, such as, any acute cellulitis, Ludwig's disease, erysipelas, or a secondary phlebitis about the nose or in the neighborhood of the pharyngomaxillary fossa. In postoperative parotitis, it is the one effective form of therapy. In acute or chronic adenitis, it is the treatment of choice. Likewise for carbuncles and furuncles, it is an outstanding form of therapy and is most effective when

used early. I have not used it in the treatment of any form of sinusitis, nor in acute or chronic suppurative mastoiditis. However, I can comprehend that in the intumescent or hyperplastic types of rhinitis, it would have a beneficial effect because it does not produce fibrous tissue. However, x-ray can cause an atrophy of secretory cells, as is well demonstrated in its use on the parotid gland; therefore I would suggest caution in its use on the nasal mucosa.

In a chronic otitis media or mastoiditis, if there exists bony destruction or cholesteatoma, how can x-ray produce a cure? If only a chronic eustachitis with infected granulations exist in the middle ear, the x-ray no doubt is an effective form of therapy. There is one condition of the ear in which I have found it of estimable value. That is, in a young adult with a chronic recurrent eustachitis, or one resistant to inflation. It is my conception, in these cases, that the eustachian tube is studded with hypertrophied infected lymphoid tissue and x-ray therapy permanently causes an absorption of this tissue, resulting in an open but not an atrophic eustachian tube.

Schillinger has ably classified those cases of acute suppurative otitis media which are amenable to x-ray therapy. He institutes such treatment at the end of a week or ten days of an acute suppurative otitis media after a roentgenogram has been taken. The course of favorable reaction is as follows:

1. Lowered temperature.
2. Cessation of pain. This sedative effect of the x-ray is one of its outstanding characteristics whenever used.
3. Lessened quantity of discharge.
4. Discharge changes character from purulent to mucopurulent.

If this so called favorable reaction occurs, he repeats the treatment at three day intervals.

Schillinger lists the following contraindications:

1. Edema over mastoid.
2. Extensive bony destruction demonstrable by the x-ray.
3. When one treatment fails to show the syndrome of favorable reaction.
4. Diabetic patient.
5. Far forward lying sinus, as shown by the x-ray.
6. Patient of apparently poor resistance.
7. Presence of any signs or symptoms of labyrinthitis, phlebitis, thrombosis, meningeal invasion or extension to the brain.

A word should be said about the use of the x-ray in malignancies in our field. It is recognized that the less differentiated the tumor cells, the more sensitive they are to x-ray therapy. Daily fractional doses are advised by the roentgenologists in order to catch the cells in the process of keratokinesis, at which stage they are the most easily killed.

I would like to ask the essayist one question relative to his experience with the reaction in acute sinusitis. My experience in these cases of eust-

achitis which I have treated is that a primary reaction occurs consisting of swelling and aggravation of symptoms lasting twenty-four to seventy-two hours. If such a reaction occurs about the ostia of the sinuses, it seems to me that the immediate objective of drainage would be defeated even though the duration of the process as a whole might be shortened.

I think such a paper as Dr. Howard's stimulates thinking, arouses discussion and represents the type which should be presented at these meetings.

Dr. Henry G. Langworthy, Dubuque: In any discussion of this subject, I think it of interest to record what the roentgenologist has to say on the topic. For this reason, before leaving for this meeting I received the following statement from Dr. Henry Edstrom, roentgenologist of the Finley Hospital in Dubuque: "The most important application of x-ray, as in the rest of the body, is in the treatment of malignant lesions and must necessarily be only an adjunct to other forms of therapy. Only occasionally will x-ray therapy alone yield good results above everything else. In the pharynx and nasopharynx, we sometimes find a type of malignant tumor containing both epidermal and lymphoid tissue referred to as lympho-epithelioma, which is highly radio-sensitive and responds remarkably well to x-ray alone. The more differentiated types of epidermoid carcinoma show less response to x-ray therapy. Many types of tumors occur in the nasal and paranasal cavities and the best results can only be obtained by the judicious use of surgery, radium or x-ray alone, or in combinations adapted to the individual case.

"Malignancies in the oral cavity including the cheek, the floor of the mouth and the tongue are best treated with radium and x-ray combined. Good results of superficial lesions here are remarkable.

"In the vast majority of cases, surgical treatment of hypertrophied and infected tonsils, is the method of choice rather than the x-ray. Occasionally a case will be encountered showing extensive proliferation of lymphoid tissue over the walls of the pharynx which cannot be entirely removed surgically and may be the cause of symptoms. X-ray therapy in these cases may be expected to yield very considerable benefit. In the treatment of head colds, the x-ray is of doubtful value, while pain and distress from an acute tonsillitis can be relieved by x-ray treatment. In chronic discharging ears, the x-ray is at present of no definite value. Occasionally we find a patient who has recovered from diphtheria, yet still has a persistent positive throat culture. Small doses of x-ray therapy will in most instances produce a negative culture."

The foregoing statement sets forth results with which I am in accord and emphasizes the necessity for more consultations between the ear, nose and throat specialist and the roentgenologist. There is a time to be positive and say "no" in any field where results do not warrant the expense to which the patient is placed.

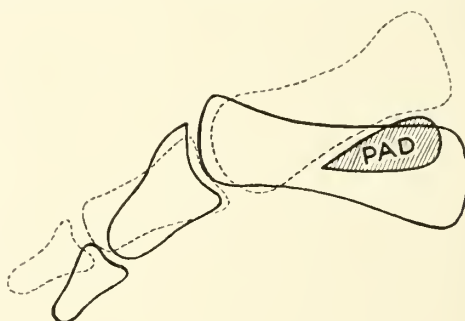
THE BURSITIDES OF THE FOOT

JOSEF WOLF, M.D., Davenport

A consideration of the subject of bursitis of the foot reveals differences in the pathology and location, and, therefore, in the treatment. It seems to me, however, that the latter is becoming more and more uniform inasmuch as the podiatrists, lacking anatomic and pathologic knowledge, have, step by step, taken possession of this field of orthopedics. Experience shows that there are the four following different seats of predilection:

1. The dorsum of the toes flexed in the middle and end joints and hyperextended in the first joint.
2. The inside of the first metatarsal joint of the great toe.
3. The insertion of the plantar fascia at the os calcis.
4. The inside of the tendo achillis.

The bursitis at the dorsum of the toes is usually due to a deformity called claw position. Because of this deformity the shoe cap creates pressure upon the bursa. Our task, therefore, is to correct this cause of bursitis. We can achieve a straightening of the deviated toe by raising the flattened metatarsal arch. The accompanying illustration shows the outline of a lateral x-ray picture of the



anterior portion of the foot with and without artificially raised metatarsal arch. This rebuilding of the anterior arch can be accomplished in different ways; by a foot plate with prominence of the metatarsal region, by a rubber or felt pad fixed at the inner sole of the shoe, or by a circular bandage which brings the fan-like spread metatarsal heads together. In severe cases only operative correction of the claw formation affords relief. The choice of the many different operative methods, such as tenotomy of the flexor or extensor tendon, or open or subcutaneous dissection of the joint capsules, or partial resection of the middle phalanx, depends upon the pathology of the case.

The bursitis at the inside of the first metatarsal joint can almost regularly be found in association with hallux valgus. Less often it occurs together with hypertrophic arthritis of the first metatarsal

joint, especially when osteophytes are present. Such a bursitis is sometimes due to pressure of the shoe or to freezing of the bunions, and therefore can most commonly be seen during the winter months. Our aim is to remove the pressure either by stretching the shoe over a last at the point causing pressure or by using a felt or rubber ring. In cases of inflammation, relief can be obtained by filling the hole of the ring with 20 per cent ichthyol ointment.

The bursitis calcanea is usually found at the medial aspect of the anterior part of the heel. It can be confused with calcaneous spur. We see frequently a slight swelling and localized tenderness of the tissue of the sole over the insertion of the plantar fascia at the os calcis. The differential diagnosis between calcaneous spur and calcaneous bursitis is dependent upon a lateral x-ray film. This type of bursitis responds best to therapy in the form of alcohol dressings, baking or diathermy. In order to shift the weight away from the heel the patient should have a foot support. This should be made after a plaster model and should have a high longitudinal arch, and be provided with a large felt pad or ring with the tender region at the hole of the ring. If, as sometimes occurs, the ring is too uncomfortable even after a smooth trimming of the edges of the ring, a rubber sponge under the heel gives relief.

The bursitis of the tendo achillis, so-called "achillobursitis," is found at the lower part of the retro-achilleal space. Its chief symptom is a swelling of this region so that the normally shallow cavities at both sides of the Achilles tendon appear filled out, and sometimes even protrude. It has to be kept in mind that this type of bursitis is often due to a gonococcal infection and in this instance it is especially obstinate to therapy. In the acute stage all signs of an acute infection such as fever, redness and extreme tenderness will be seen. The best treatment is diathermy in addition to specific antigonorrheal measures with hyperpyrexia treatment by inductotherm. During the past few years the inductotherm has eliminated the foreign protein therapy which consisted of injections of milk, gonococci vaccine, colloidal gold, etc. In cases where these therapeutic measures do not bring relief, the operative removal of the infected bursae is advisable. As to the differential diagnosis, achillobursitis can be confused with achillotendinitis. The latter, however, shows the most pain during bending and straightening of the foot, while movements of the upper malleolar joint usually do not cause pain in retro-achillobursitis. Also the therapy of achillotendinitis is different inasmuch as diathermy and other physio-

therapeutic measures are usually less effective than rest of the ankle joint by strapping with tape.

I have attempted in the foregoing discussion to illustrate the variability in pathology and location of the bursitides of the foot. In view of these variations, no uniform treatment of this condition can be applicable to all of them, and it seems obvious that in order successfully to treat such conditions, it is necessary to have a complete and adequate knowledge of the anatomy and pathology of the foot, such as only a doctor of medicine has.

510 Davenport Bank Building.

CLINICAL NOTES FROM THE COLLEGE OF MEDICINE

FAMILIAL LUMBOSACRAL SYRINGOMYELIA*

CLARENCE VAN EPPS, M.D., and
H. DABNEY KERR, M.D., Iowa City

The appearance in our clinic of two or more members of four different families with trophic changes in the soft and bony tissues of the feet has led us to review the literature of similar cases. One of our cases was sporadic but since the picture was similar to the familial cases we have included it in our report, all the more so since one case at first considered sporadic was found to be one of seven in the family. Syringomyelia rarely occurs as a familial disease, only forty-four cases being recorded in which the distribution was of the usual cervicothoracic type. In only four families did the number of cases exceed two. The exceptional series was one of thirteen cases reported by Barraquet and de Gispert. These authors examined five cases and had a history of eight others. They were, however, quite different from the classical type of syringomyelia, and from the reported cases of symmetrical gangrene of the hands and feet, representing rather a mixture of the two conditions. In general we have classified our cases in the syringomyelia group, and we feel that the term "familial lumbosacral syringomyelia" is the best one for their designation.

To date there have been reported fifty-four cases to which we are now adding twenty-seven of our own, making a total of eighty-one cases in all. Of these, seventy-one are familial and ten are sporadic. The typical case begins in the 'teens with calluses on the soles of the feet. These ul-

*From the Departments of Neurology and Radiology.

cerate and heal slowly, if at all. The process is usually painless in the absence of extensive infection, and the patient is rarely obliged to remain off his feet. The toes become discolored, swollen or shrunk and are removed piecemeal. The metatarsal bones later undergo the same process. Infection may necessitate incision and pieces of bone may be discharged. The feet become increasingly deformed through scarring of the soft tissues and loss of bone. In extensive infection amputation may be required. Several patients have died of infection. Rarely does the process extend above the ankles. The general health is good, the sphincters and sexual life remain normal, and there is surprisingly little interference with the patient's activity and work, even when he is required to be upon his feet all day.

CASE REPORT

E. J., (K 3199) a white, married man forty-one years of age, was admitted to the University Hospital on August 20, 1934. He had three children, two of whom appeared normal, but one child, seventeen years of age, (I. J.) had abnormal feet.

Family history: The mother, brother, two sisters, one nephew and one son all had foot trouble.

Past medical history: This history was negative.

Present illness: The present illness began when the patient was nineteen years of age with an ulcer on the ball of the left great toe. This healed in



Fig. 1. Showing soft tissue deformities and ulcers.

six months to re-open five years later, and since that time it had been present most of the time. On several occasions pieces of bone had been discharged. When the foot was extended, the ulcers

were painful. During the last ten years the left foot had become much shorter.

At thirty-seven years of age, similar ulcers appeared on the right foot. At times the toes would become very tender and glands would appear in the groin, but he had never had any fever. He had never noted any loss of sensation on his feet until it was discovered at the hospital. His gen-



Fig. 2. Typical bone changes on left foot with beginning changes on right foot.

eral health was good and bowel and bladder functions were normal. The urine had been repeatedly examined for sugar, always with negative results.

Physical examination: The general examination was negative except for the legs. The laboratory tests, blood, urine, Wassermann reactions and spinal fluid were all normal. Both feet were deformed, especially the left, which was shortened and discolored. On the left sole were two ulcers at the base of the first and third toes. On the dorsum were scars of former ulcers. On the ball of the right foot were also the scars of former ulcers. The strength of the legs and toes was normal throughout. Knee-jerks were 3+/3+, tendo-achillis 1+/1+; plantars extension/extension; ankle clonus 6/—. Sensation was intact over the shins. On the feet, pallesthesia and pain sensation were absent and light touch was only 25 per cent. The station was normal. The gait was somewhat wide and careful.

Roentgen examination: Dorsoplantar and oblique films of both feet showed marked shortening and atrophic changes involving the distal ends of all the metatarsals and proximal phalanges of the left foot. There was roughening and some spicule formation. The metatarsophalangeal joints were completely disorganized and the distal phalanges were either missing or were very atrophic. The right foot showed similar changes, but to a less marked degree, the main change in this foot being

in the first metatarsophalangeal joint and the distal phalanges. There was nothing to suggest osteomyelitis. The bilateral involvement with uniform changes in the bones of each foot made us feel that we were dealing with a trophic lesion of long standing. We felt, therefore, that it was necessary to consider syringomyelia or some very unusual condition as the etiologic factor. The pa-



Fig. 3. This patient is in the third generation of affected individuals in the "S" family.

tient received a series of roentgen treatments over the lumbar spine.

On July 29, 1936, the patient was found to be working full time. He felt that the feet were better since the roentgen treatment, and examination showed some healing of the ulcers.

ROENTGEN CHARACTERISTICS

Aside from roentgenograms made to determine the presence or absence of spina bifida occulta, our roentgen observations have been confined almost wholly to the feet and ankles. From our radiographic examination of fifteen cases, we have come to consider "typical" changes as consisting of attenuation and absorption of the distal portions of the metatarsals with or without similar involvement of the phalanges. These findings are usually associated with disintegration of the metatarsophalangeal joints. The first change noted may be only a roughening and sclerosis of the shafts of the metatarsals or even an early porosis, usually of the first metatarsal. Thickening of the periosteum of a metatarsal is not an unusual finding,

but it is less commonly found on the tibia and fibula. Loss of digits spontaneously or by surgical amputation is common. The great toe and first metatarsal may show the first changes but this is by no means an invariable rule. Fracture of the atrophic end of a metatarsal or of a phalanx is not uncommon, while ankyloses of small joints may occur. This latter finding may be due to secondary infection of the joint through a perforating ulcer. Schlesinger, however, points out that this is more common in the hands than in the feet. Because of the physical activity of these patients, made possible through lack of pain, one almost never sees disuse osteoporosis and fractures cannot be assumed to be on this basis. This point is also stressed by Clarke and Groves. While both feet may be involved equally in the pathologic process, it is not uncommon to have only one foot visibly affected. It is, of course, not unusual to have early neurologic changes and even soft tissue change such as chieromegaly as mentioned by L'Hermitte and Nemours and trophic ulcers, without being able to demonstrate bone or joint abnormality. The above changes are to be differentiated from rather similar ones found in patients who have been repeatedly exposed to cold and damp, so-called trench foot, and where the changes are probably a direct result of a vascular disturbance. Similar changes have also been reported in the hands and feet of patients with chronic longstanding psoriasis, although we have never had such a case of our own.

SUMMARY

We have examined nineteen of the twenty-seven cases included in this report. Twenty-six of these cases occurred in four families, while we have been unable as yet to establish a familial tendency in the other case. These cases can be tabulated as follows:

	Males	Females
"G" Family.....	7	0
"J" Family.....	4	3
"S" Family.....	3	7
"W" Family.....	0	2
Sporadic.....	1	0
Total.....	15	12

Roentgen examination of the feet showed osseous changes in fifteen cases. These changes were trophic in character, absorption of bone, disintegration of joints, periosteal new bone and pathologic fractures. Soft tissue changes could also be seen. Films of the lumbosacral spine convinced us that spina bifida occulta *per se* is not a necessary

part of the syndrome. Of six cases, two showed a small cleft. The fact that at least two of these cases have shown progression over a period of years and two others have been benefited by roentgen irradiation to the lumbosacral spine makes us feel that we are dealing essentially with a condition closely akin to syringomyelia. We have, therefore, chosen to designate this condition as "familial lumbosacral syringomyelia."

CONCLUSIONS

1. The occurrence of chronic painless ulcers on the feet especially when associated with roentgen evidence of neurotrophic changes in the bones and joints of the forefeet, should lead to a study of the family history in a search for similar cases.
2. Familial lumbosacral syringomyelia is one of the most frequent causes for such a syndrome.
3. Irradiation of the lumbosacral cord appears to be the best available treatment.

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THE FINLEY HOSPITAL CLINICOPATHOLOGIC CONFERENCES

CANCER OF THE LUNG

M. H. SCHEELE, M.D., Dubuque

During the last two decades primary carcinoma of the lung has excited much interest, both because of its rising incidence and because cure is possible through improved technic in pulmonary surgery. The latter obviously demands early diagnosis. Therefore, every physician should be on the alert for evidence of cancer of the lung, especially in patients between 40 and 60 years of age, the group in which two-thirds of pulmonary cancers occur. The case to be described illustrates some of the more common features of the disease.

CASE REPORT

The patient, a white man, seventy-two years of age, was admitted to the Finley Hospital, February 13, 1937, because of "shortness of breath and weakness."

Family history: The patient's father and mother had each died at the age of eighty-five years, of "old age." Two brothers and sisters were alive and well but three brothers and sisters had died of unknown causes.

Past history: The patient had had scarlet fever when he was twelve years of age, and mumps when he was twenty-six years of age. An inguinal hernia had been repaired in this hospital in 1921; otherwise he had always been well.

Present illness: Three months before admission, the patient began to have stomach distress after meals. Two months previously he caught "cold," but paid little attention to it although it never cleared up. At times he coughed up a little blood-tinged sputum. Three weeks before we saw him, the "cold" became worse and a week later he consulted a physician because of weakness, cough, and shortness of breath. He was given some pills but his symptoms gradually increased in severity.

Physical examination: The patient's temperature was 98.6 degrees; the pulse was 100, and the respirations were 24 per minute. The patient was an old man who seemed in poor physical condition, and was very dyspneic. The skin was very relaxed and he had evidently lost considerable weight. His voice was husky and he was somewhat cyanotic. The pupil of each eye reacted to light and accommodation. There was marked arcus senilis. The ears were negative. The tongue was furred and moderately tremulous. The teeth were in poor condition. The posterior pharynx was covered by a tenacious, mucoid discharge. On percussion the left chest was dull throughout, and on auscultation no sounds were heard over the lung. The heart sounds were accentuated and a diastolic murmur was heard at the base, which was transmitted into the neck. The apical heart sounds could not be heard outside the nipple line. On percussion the right side of the heart was not displaced and the apex beat was not distinctly palpable. The heart dullness merged imperceptibly with that of the remainder of the chest. The abdomen was negative except for the scar of the herniotomy. The knee jerks and other reflexes were exaggerated. There was no edema of the ankles.

Laboratory examination: The urine was acid, with a specific gravity of 1.022; was negative for sugar, bile and acetone, but contained a faint trace of albumin. The sediment showed only urates. A white blood count was 13,000 per cubic millimeter.

X-ray examination: A single film of the chest showed an extensive density involving the entire left side of the chest. The diaphragm was not seen but the right border of the heart was in its

normal position and the tracheal shadow was not displaced. The picture strongly suggested a massive pneumonic consolidation of the left lung. (Fig. 1.)



Fig. 1. Roentgenogram of the chest. Note that the heart is not displaced.

Provisional clinical diagnosis: Left lobar pneumonia.

Course in the hospital: The patient's temperature varied between 98 and 99 degrees during his five weeks' stay in the hospital. The respirations averaged 22 per minute and the pulse fluctuated between 70 and 120, averaging about 90 per minute. Bronchial breathing was noted in the left upper lobe on the third day in the hospital. The cyanosis persisted as did the shortness of breath and weakness, and gradually increased in severity. Two lots of fluid, one clear and the other blood tinged, were removed from the left chest, and on examination were sterile and judged to be transudate. Sputum examination showed a few staphylococci and pneumococci but no acid-fast bacteria. Because of the lack of temperature and the persistence of the signs in the left chest, the diagnosis of mediastinal malignancy was considered most likely. The patient failed gradually and died on the thirty-fifth day in the hospital.

Final clinical diagnosis: Question of mediastinal neoplasm with pleural effusion.

Necropsy: At necropsy 1,500 cubic centimeters of fluid were found in the peritoneal cavity, and 3,000 cubic centimeters in the left chest. The left lung was markedly atelectatic. The primary tumor was found in a left primary bronchus, and

the other essential findings are indicated in the anatomic diagnosis.

Primary:

Carcinoma of a left primary bronchus. (Fig. 2.) Extension to the left lung; metastases to the superior mediastinum, pleura, pericardium, epicar-



Fig. 2. Drawing showing the carcinomatous nodules, occluding a left main bronchus and extending toward the hilum.

dium right lung, omentum, liver and epigastric lymph nodes; massive left pleural effusion, atelectasis of the left lung; ascites.

Subsidiary: Arteriosclerosis, chronic cholecystitis and cholelithiasis; bilateral inguinal herniae.

Comment: This case is of interest because it is fairly typical of the course of lung cancer. The story of a persistent "cold" with blood-tinged sputum, accompanied by a gradually increasing dyspnea, cyanosis and weakness in an elderly patient should always make one consider the possibility of cancer of the lung. While at times the diagnosis may be relatively easy, in many cases, as in this one, the presence of a pleural effusion, tends to obscure the usual physical findings and also the x-ray studies. It is well in such instances to withdraw as much of the pleural fluid as possible in the hope that the physical and x-ray findings may be clarified. As the majority of tumors originate in the bronchi probably many diagnoses can be made by bronchoscopic examination better than

by any other method. This procedure should always be carried out when there is a suspicion of cancer of the lung.

GENERAL DISCUSSION

Previous to the World War, primary cancer of the lung was thought to be very rare. Since that time it has been reported with increasing frequency and probably at least five per cent of all cancer deaths are due to the disease. The great majority of the neoplasms originate in the bronchial epithelium or in the submucous glands and only occasionally does a tumor arise in the alveolar epithelium. The lung is also a very common site of metastases from malignant tumors elsewhere in the body.

Diagnosis: Cough, pain in the chest, dyspnea, and cyanosis are the most common early symptoms of cancer of the lung. Dyspnea, in the absence of cardiac disease and associated with cough and pain in the chest, should always suggest cancer of the lung. The pain is constant and boring in type and is not relieved by a pleural effusion. The cough is dry, hacking and often only slightly productive. The sputum may be tinged with bright blood or have the appearance of currant jelly. As the disease progresses the dyspnea and cyanosis gradually increase in severity, evidences of metastases become apparent and there is a general failure in health. The diagnosis is usually made by x-ray and bronchoscopic studies, but in some instances a thickened pleura or a pleural effusion may obscure the former. X-ray examination after the instillation of lipiodol may aid in detecting a cancer of a main bronchi. Biopsy during the bronchoscopic studies may clarify many doubtful diagnoses.

Treatment: Whenever possible surgical removal (total or partial lobectomy or pneumectomy with cauterization) offers the best chance of cure. Rarely bronchoscopic excision of a small and sharply localized bronchogenic cancer may be successful. Many cases will be inoperable when first diagnosed and radiation is very valuable as palliative treatment. Lung cancers differ in their sensitivity to radiation but it should always be employed because occasionally a five-year survival has been reported.

Prognosis: The prognosis is dubious and most patients die within one year after the onset of symptoms. Occasionally a patient lives two to five years. Radiation prolongs life and makes it more endurable. The development of thoracic surgery in the last decade is encouraging and probably with earlier diagnoses more cures may be hoped for in the future.

COMING MEETINGS

Because we feel that some of the physicians in Iowa may be interested in a number of national meetings, we are herewith publishing a calendar of the approaching sessions. More detailed information may be secured from the *Journal* office.

Iowa Academy of Ophthalmology and Otolaryngology, November 18, Hotel Fort Des Moines, Des Moines, Iowa. Clinical demonstrations of various cases in this field of practice will be conducted. All who are interested are cordially invited to be present.

American Board of Obstetrics and Gynecology will conduct next examination on Saturday, February 5, 1938. All applications must be filed in the office of the secretary of the organization at least sixty days before the date of examination.

Pan American Medical Association, Seventh Cruise-Congress, Steamship Queen of Bermuda leaves New York for Havana, January 15, 1938.

American Association of Orthopedic Surgeons, Annual Meeting—January 16 to 20, 1938, Hotel Biltmore, Los Angeles, California.

American College of Physicians, Twenty-second Annual Sessions, April 4 to 8, 1938, New York City.

AMERICAN BOARD OF INTERNAL MEDICINE HOLDS WRITTEN EXAMINATION

The American Board of Internal Medicine will hold its next written examination on Monday, February 14, 1938, in various centers of the United States and Canada.

The examination will consist of two sessions of three hours each with the morning session held at 9:00 o'clock a. m. and the afternoon session held at 2:00 o'clock p. m.

The candidates who are successful in this written examination will be eligible to take the practical examination which will be held in San Francisco the Friday and Saturday prior to the opening of the Annual Session of the American Medical Association in June, 1938.

The final date for filing applications for this written examination is January 15, 1938, and all applications should be in the office of the chairman before that date.

For further particulars and application blanks please address Dr. Walter L. Bierring, M.D., Chairman, American Board of Internal Medicine, Suite 1210, 406 Sixth Avenue, Des Moines, Iowa.

SCIENTIFIC EXHIBIT AT THE SAN FRANCISCO SESSION

Application blanks are now available for space in the scientific exhibit at the San Francisco Session of the American Medical Association, June 13-17, 1938. The committee on scientific exhibit requires that all applicants fill out the regular forms.

Application blanks may be obtained from the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

STATE DEPARTMENT OF HEALTH



PNEUMONIA CONTROL MEASURES

The Iowa State Department of Health, in co-operation with the United States Public Health Service, is joining those in charge of the various laboratories and hospitals of the state in further steps toward the control of pneumonia. Significant progress has been made in recent years in laboratory methods for the early diagnosis of pneumonia and for determination of the strains of pneumococci responsible for the disease. Early recognition of the type of pneumonia and availability of specific immune sera for certain types, give rise to the hope that through concerted effort there may be brought about a distinct lowering of the high mortality rate now associated with pneumonia.

Pneumonia Deaths in Iowa

Mortality records for the past four years indicate an increase in the number of deaths from all forms of pneumonia in Iowa. Whereas in 1933 such deaths totaled 1482, or 59.7 per 100,000 population, there were 2098 pneumonia deaths in 1936, a rate of 83.9 per 100,000 population. During the first seven months of 1937, deaths from all forms of pneumonia in Iowa totaled 1191.

Reporting of Pneumonia Cases

An urgent need is that the reporting of cases of lobar and bronchopneumonia, heretofore very inadequate, be more complete. During 1936, in contrast with the 2098 recorded deaths, only 202 cases of pneumonia were officially reported to the Iowa State Department of Health. Reporting of pneumonia assumes major importance, particularly in relation to the periodic occurrence of outbreaks of epidemic influenza.

The Neufeld Reaction and Curative Serum

The success attending efforts to control pneumonia is due largely first, to the use of the Neufeld reaction for the typing of pneumococci; and second, to the development of potent curative serum for certain types of pneumonia. The Neufeld reaction is based on the observation made in 1902 by F. Neufeld, who noted swelling of the

pneumococcus capsule when pneumococci in suspension were brought into contact with corresponding antipneumococcic serum. The work of Georgia N. Cooper has demonstrated that pneumococci belonging to Group IV comprise twenty-nine different serologic types, which together with the longer recognized Types I, II and III, make a total of thirty-two types of pneumococci. Curative serum is known to be effective against Types I, II, V, VII and VIII.

Typing Stations for Pneumonia

It is desirable that every county in the state have facilities for the typing of pneumococci by means of the Neufeld method. The State Department of Health has directed a letter to various laboratories and to 130 hospitals certified by the American Medical Association, with the offer first, to designate laboratories as centers for the typing of pneumococci; and second, to forward to each typing station, without cost, a supply of diagnostic antipneumococcic serum for use in carrying out the Neufeld method. Completed schedules already received from over fifty laboratories and hospitals indicate readiness to engage in this work.

Lowering of the mortality rate from pneumonia depends to a large extent upon curative serum, used early and in adequate amount. Curative serum should be within reach for the treatment of pneumonia patients, regardless of the patients' ability to pay. Although not now in position to supply curative serum for underprivileged patients, it is hoped that the growing need for such serum may soon be met by the State Department of Health. With early diagnosis and with funds and facilities adequate to supply curative serum for those in need, the hope of saving the lives of many pneumonia patients will become a reality.

OUTBREAK OF GASTRO-ENTERITIS

On November 3, over 300 children and employees in the Iowa School for the Deaf at Council Bluffs developed symptoms of gastro-enteritis with onset about three hours after the noon meal.

Symptoms were those of nausea and vomiting, followed by diarrhea and a moderate degree of prostration. Most of the patients were feeling quite well again the following day.

Investigation of this explosive outbreak of gastro-enteritis was made by the Iowa State Department of Health in cooperation with Mr. L. E. Berg, superintendent of the Iowa School for the Deaf, and McMicken Hanchett, M. D., the physician in charge. That the noon meal was apparently responsible for the type of illness which developed, is evidenced by the fact that some of those who were sick had had breakfast away from the institution. Detailed inquiry as to the articles of food which the patients had eaten at the noon meal revealed the fact that coconut cream pie was the only food which was eaten by all of those who became sick. The pie filling contained milk from the dairy herd belonging to the institution. The filling was allowed to stand at room temperature (75 to 80 degrees) throughout the afternoon and over night. The filling was then poured into the pie shells, meringue was added and the pies were served for dinner.

Several pieces of the cream pie and milk specimens from a cow with a history of mastitis, were carried without delay to the State Hygienic Laboratory of the Iowa State Department of Health. Bacteriological examination of the pie and milk specimens was made by I. H. Borts, M. D., Assistant Director of the State Hygienic Laboratory. The pie specimens and several of the milk specimens showed the presence in large numbers, of hemolytic staphylococcus aureus. The pie specimens showed enormous numbers of these organisms. Evidence points to staphylococcus toxin as having been responsible for this outbreak of gastro-enteritis. Additional work is being done in the laboratory with the purpose of determining whether the staphylococcus aureus strains are toxin producers.

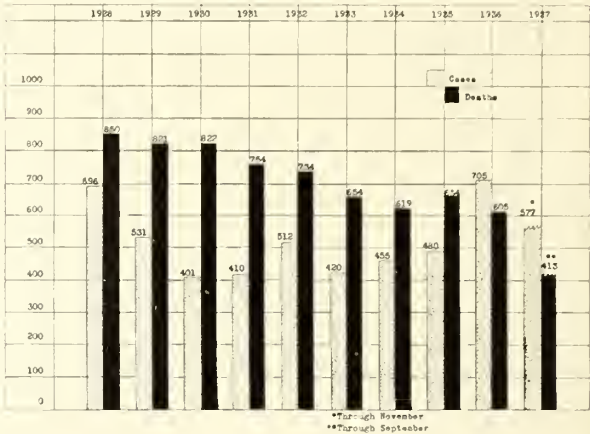
The report of the investigation includes the recommendation that equipment for pasteurization be installed at the School for the Deaf and that all dairy products, insofar as possible, be kept under constant refrigeration until served.

REPORTING OF TUBERCULOSIS IN IOWA

As indicated in the accompanying bar graph, 1936 was the first year in the records of the Iowa State Department of Health, in which the number of reported cases of tuberculosis exceeded the total number of deaths during that year. The minimum standard of reporting, as determined by

the United States Public Health Service, is a two to one ratio between reported cases of and deaths from tuberculosis. Tuberculosis deaths in Iowa totaled 605 in 1936. To have attained the minimum standard of reporting in 1936, reported cases should have totaled 1,210, instead of 705,

TUBERCULOSIS IN IOWA
Number of Cases and Deaths Reported for Period 1928-1937



the actual number reported a year ago. It is likely that many physicians have not reported cases of tuberculosis because the regular report cards have not been at hand. Report cards will be forwarded promptly on request, to physicians who desire to report cases. Literature on the subject of tuberculosis will also be forwarded without cost, through a cooperative arrangement with the Iowa Tuberculosis Association. It is confidently expected that before the close of the current year 1937, Iowa will more nearly approach the minimum standard of reporting than ever before.

PREVALENCE OF DISEASE

	Oct. '37	Sept. '37	Oct. '36	Most Cases Reported From
Diphtheria	14	8	28	Osceola, Jackson, Pottawattamie
Scarlet Fever	309	133	252	Polk, Lee, Black Hawk
Typhoid Fever	33	20	22	Monroe, Appanoose
Smallpox	20	8	20	Audubon, Hamilton
Measles	12	7	15	Dubuque
Whooping Cough...	188	161	93	Poweshiek, Washington, Woodbury
Cerebrospinal Meningitis	4	2	6	Allamakee, Scott, Story, Woodbury
Chickenpox	106	11	123	Polk
Mumps	63	27	19	Washington, Lyon
Poliomyelitis	46	118	27	Polk, Dubuque, Story
Tuberculosis	71	52	98	(For State)
Undulant Fever	7	11	15	(For State)
Gonorrhea	232	284	148	(For State)
Syphilis	394	446	120	(For State)

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HOLIDAY GREETINGS

Now comes that season of the year which delights everyone. It is the season of cheer, of happiness, and of good-will, a season when enmities and quarrels are taboo. Smiles come out and handclasps are freer; grudges are forgotten; and old friendships, long neglected, are renewed.

It is the season too when new friends are easily made; fine friends to whom we should long ago have extended the welcoming hand of friendship. Perhaps we do not realize how much our friendly counsel and advice can mean to these young physicians just now starting their precarious journey through medical practice. There can be no doubt that the way is becoming increasingly difficult, even for "veteran" practitioners; and the recent graduate is faced with a multitude of decisions which can be met successfully only by those whose judgment has been seasoned by years of experience.

The spirit of Christmas, the spirit of friendliness, the spirit of giving; the association is inevitable. To the successful practitioner we would say, "Give of yourself, your years of experience, and the value of your friendship." It is a gift that will not depreciate as the years come and go. It has been said that a friend is the most precious possession in the universe. If that is true, we are enriching our own lives in addition to providing a much needed "helping hand" to some of these younger physicians.

Thus the JOURNAL wishes for each of its readers, a happy holiday season, filled with the true spirit of Christmas—the spirit of friendship.

PRINCIPLES AND PROPOSALS

On November 7 there appeared in many of the newspapers of the country an article dealing with certain "principles and proposals for the improvement of medical care." Interest, particularly among physicians, was immediately heightened when it was learned that these principles and proposals emanated from a Committee of Physicians, whose personnel included men high in the ranks of the medical profession, and that these proposals had been endorsed by some 430 other physicians, among whom were many well-known heads of departments and deans of prominent medical schools. The JOURNAL believes the matter to be of such significance and interest to its readers as to justify a rather detailed presentation of all the facts it has at hand up to the present time.

The first question which arises is, "Who and what is the Committee of Physicians?" According to the Committee's own draft, Russell L. Cecil of New York City is chairman, Hugh Cabot of Rochester, Minnesota, and Milton C. Winternitz of New Haven, Connecticut, are vice chairmen, and John P. Peters of New Haven is secretary. Other members listed are: George Blumer of New Haven, Allan M. Butler of Boston, J. Rosslyn Earp of Albany, Channing Frothingham of Boston, William S. McCann of Rochester, New York, George R. Minot of Boston, Robert B. Osgood of Boston, Richard M. Smith of Boston, John H. Stokes of Philadelphia, and Soma Weiss of Boston. As to the origin and purpose of the Committee one further gleans from the draft that the group is a self-appointed one which holds in common the belief that the present economic and social trends in the country indicate a necessity for some alterations in the present system of medical practice. They further believe that any proposed changes should be initiated by the medical profession since physicians are the experts in medical affairs, but that in order to have maximum influence with legislative bodies, close cooperation with economists and sociologists should be sought. Apparently these beliefs are based to some extent at least upon the report of the American Foundation Studies in Government which was published under the title of "American Medicine: Expert Testimony Out of Court." In fact, several of the members of the Committee of Physicians were also members of the Medical Advisory Committee of the Foundation Studies.

The following letter from Dr. Peters, dated November 4, was received by Dr. Robert L. Parker, secretary of the Iowa State Medical Society:

"For the information and, we hope, the consideration of the Iowa State Medical Society, I am enclosing to you certain principles and proposals and the

names of a number of medical men throughout the country that subscribe to them. The introduction will indicate how these principles and proposals came to be formulated and circulated informally among medical men. Our committee hopes that you will take all proper means to call these principles and proposals to the attention of the members of your group. We shall appreciate knowing to what degree the Society will find it practicable and proper to give consideration to the draft."

The principles presented to medical organizations for their consideration are: first, that the health of the people is a direct concern of the government; second, that a national public health policy directed toward all groups of the population should be formulated; third, that the problem of economic need and the problem of providing adequate medical care are not identical, and may require different approaches for their solution; and fourth, that in the provision of adequate medical care for the population four agencies are concerned: voluntary agencies, local, state and federal governments.

The Committee of Physicians has set forth the following proposals to carry out the above principles:

1. That the first necessary step toward the realization of the above principles is to minimize the risk of illness by prevention.

2. That an immediate problem is provision of adequate medical care for the medically indigent, the cost to be met from public funds (local and/or state and/or federal).

3. That public funds should be made available for the support of medical education and for studies, investigations and procedures for raising the standards of medical practice. If this is not provided for, the provision of adequate medical care may prove impossible.

4. That public funds should be available for medical research as essential for high standards of practice in both preventive and curative medicine.

5. That public funds should be made available to hospitals that render service to the medically indigent and for laboratory and diagnostic and consultative services.

6. That in allocation of public funds existing private institutions should be utilized to the largest possible extent and that they may receive support so long as their service is in consonance with the above principles.

7. That public health services, federal, state and local, should be extended by evolutionary process.

8. That the investigation and planning of the measures proposed and their ultimate direction should be assigned to experts.

9. That the adequate administration and supervision of the health functions of the government,

as implied in the above proposals, necessitates in our opinion a functional consolidation of all federal health and medical activities, preferably under a separate department.

It will be recognized at once that these principles and proposals are only slight modifications of the principles and proposals introduced by the delegates of the New York State Medical Society into the House of Delegates of the American Medical Association at Atlantic City last June; these were rejected by that body. At the same time the House of Delegates reaffirmed its position by a pronouncement of the Board of Trustees which was presented in full in the July issue of this publication.* The action of the House of Delegates obviously was not satisfactory to the Committee of Physicians, for shortly thereafter it began circulating its drafts among selected physicians throughout the country.

The picture was further complicated by the introduction and circulation during the week of November 14 of a "Declaration" drafted by another group of equally prominent physicians. A letter, accompanying the declaration, addressed to secretaries of all county and state medical societies and signed by Dr. Eugene S. Kilgore of San Francisco is as follows:

"You have doubtless received or soon will receive a request that your Society consider certain 'Principles and Proposals' calling for a large increase in governmental participation in matters pertaining to the prevention and cure of disease—'Principles and Proposals' which have now been signed by a large number of prominent medical men. With due apology for writing as an individual rather than as representative of a Committee (which will require time to organize), I urge that your Society take no favorable action on these 'Principles and Proposals,' at least without mature deliberation.

"For your information there is enclosed the draft of a Declaration which Doctors Elliott C. Cutler, George Dock, Haven Emerson, Noble Wiley Jones and I are now mailing to the two or three thousand physicians and surgeons who were invited to contribute to 'American Medicine.' I hope soon to send you a list of signers, and am confident that it will include the names of a large number who signed the 'Principles and Proposals'; for of those interviewed many have now admitted that they signed hastily, 'by request,' and without seeing the threats of political domination and abuse that lie beneath the pleasing surface prospect of government support.

"You will observe that this Declaration is strictly in accord with the position taken by the American Medical Association, which at the last meeting of its House of Delegates unanimously rejected a resolution similar to the 'Principles and Proposals.' While individual physicians and lesser units of organized medicine are certainly free to differ with the American Medical Association in their opinions, they must, if they stop to think, see the advantage of unity of purpose on the part of the profession. And if they must take action contrary to the National Association, they should at least pause before doing

* Editorial: The A. M. A. at Atlantic City. Jour. Iowa State Med. Soc., xxvii:302-303 (July) 1937.

so in a manner which may be exhibited in the public press as evidence of disunion.

"As a lone voice at this writing I can't definitely ask your Society to endorse the enclosed Declaration. But if the Society should do so, the news would be deeply gratifying, and would be used to encourage other societies to like action."

The declaration mentioned in Dr. Kilgore's letter follows:

"In connection with certain recent proposals for increased governmental participation in matters pertaining to the prevention and cure of disease, we, the undersigned, declare the following to be our convictions on certain points which we believe are pertinent, important and fundamental:

"1. That, while the health of the people is a concern of government, the intervention of government should consist chiefly in promoting the security of the people in the enjoyment of health opportunities, should involve the minimum complexity and size of government agencies, and should preserve the maximum individual freedom and private initiative consistent with this aim;

"2. That, in conformity with this principle,

(a) Government agencies for ensuring the sanitary safety of water, milk and other supplies, for quarantine, for enforcing honesty in labeling and advertising foods and drugs for medical licensure and the like should be maintained and in certain cases strengthened; and

(b) Recognizing the need of medical service distribution for low income groups, government should regard with sympathetic approval and, where necessary, aid by enabling legislation certain programs of insurance for medical care in sickness now functioning and others contemplated by many units of organized medicine in this country; and, mindful of the medical profession's ageless and fruitful tradition of self-sacrificing service and of the American people's stake in personal freedom, government should refrain from competing in or monopolizing the field of insurance medicine and from compulsion of physicians in offering or of the people in accepting such insurance;

"3. That the preservation and advance of standards in medical education, medical practice and medical research are more important for the future quality of medical service than the present problem of distribution, however urgent it may appear to be; and

"4. That in conformity with this principle, since support by legislative appropriation inevitably favors political control and diminishes both the incentive and (through mounting taxation) the possibilities for private support, government should avoid any general extension of the policy of subsidizing medical institutions."

The Board of Trustees of the American Medical Association saw fit to take cognizance of these various proposals by issuing the following statement for publication at the Annual Conference of State Secretaries and Editors held in Chicago, November 19 and 20:

"Following the publication of the report of the American Foundation Studies in Government, a small group of physicians, assembled in New York, developed certain principles and proposals which have since been circulated by a self-appointed Committee of Physicians among the medical profession of the United States, with a view to obtaining signatures in their support. During a

period of approximately six months, some 430 medical men have apparently permitted the use of their names. Early in November the self-appointed group of physicians released to the press for Sunday, November 7, a statement of principles and proposals to which the names of the 430 signers were affixed. The newspapers generally heralded this action as a revolt against the American Medical Association, in a great majority of the cases indicating that there was a revolt in behalf of 'state medicine.' The publication of this manifesto and the attached signatures has been heralded with glee by many of those who have been opposing the American Medical Association in behalf of cooperative practice, sickness insurance, and various fundamental changes in the nature of the practice of medicine. Within the last week another series of proposals has come from another self-appointed group requesting signatures of physicians. This series of proposals includes the suggestion for enabling legislation for sickness insurance.

"The American Medical Association is an organization of physicians along strictly democratic lines. Representatives of county medical societies send delegates to state medical societies and these, in turn, send their delegates to the House of Delegates of the American Medical Association. It is possible for any physician, through his delegate, to obtain consideration of any proposal which he may wish to bring to the attention of the House of Delegates. At the Atlantic City session the delegates from New York State presented these principles and proposals, slightly modified, as an action of the House of Delegates of the New York State Medical Society. They were carried before a reference committee and, in several sessions of that reference committee, considerable numbers of physicians presented arguments for and against their adoption. The House of Delegates, however, after thorough consideration of the report of the reference committee, and with full cognizance of the method of development of these principles and proposals, and of the considerations which were involved in their passage by the House of Delegates of the New York State Medical Society, did not accept them. The House of Delegates did, however, point out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all those unable to pay either in whole or in part.

"Why, then, any necessity for the circulation of petitions presenting proposals for fundamental changes in the nature of development, distribution and payment for medical service? Is there a well designed plan to impress the executive and legislative branches of our government with the

view that the American medical profession is disorganized, distrustful of its leaders, undemocratic in its action and opposed to the best interests of the people? Who may profit from such evidence of disorganization? Is there any evidence that the self-appointed Committee of Physicians and the 430 physicians who have affixed their names to these principles and proposals are any better able to represent the opinion of the American medical profession than the democratically chosen House of Delegates of the American Medical Association—one of the most truly representative bodies existing in any type of organized activity in this country today?

"The House of Delegates has given its mandate to the Board of Trustees, to the officers and to the employees of the Association. That mandate opposes the principles and proposals emanating from the Committee of Physicians, and equally the new proposals. If the House of Delegates sees fit to depart from the principles now established, it will be the duty of the Board of Trustees, the officers and the employees of the American Medical Association to promote such new principles as the House of Delegates may establish. Until, however, the regularly chosen representatives of the 106,000 physicians who constitute the membership of the American Medical Association (now the largest membership in its history) determine, after due consideration, that some fundamental change or revolution in the nature of development, distribution and payment for medical service in the United States is necessary, physicians will do well to abide by the principles which the House of Delegates has established. They will at the same time deprecate any attempts inclined to lead the executive and legislative branches of our government, as well as the people of the United States, into the belief that the American medical profession is disorganized.

"Members of the medical profession, locally and in the various states, are ready and willing to consider, with other agencies, ways and means of meeting the problems of providing medical service and diagnostic laboratory facilities for all requiring such services and not able to meet the full cost thereof. The American Medical Association has reaffirmed its willingness on receipt of direct request to cooperate with any governmental or other qualified agency and to make available the information, observations and results of investigation, together with any facilities of the Association. Thus far, no call has come from any governmental or other qualified agency, for the cooperation of the American Medical Association in studying the need of all or of any groups of the

people for medical service, to determine to what extent any considerable proportion of our public are actually suffering from lack of medical care. The offer still stands as evidence of the willingness of the American Medical Association to aid in finding a solution to any or all of the problems in the field of medical care that now prevail."

This, to the best of our knowledge, concludes the list of public documents which have appeared in the discussion. We do not hesitate to say that we believe the mass of medical opinion will coincide with the stand taken by the Board of Trustees of the American Medical Association. It is difficult to understand the motivating factors which influenced the Committee of Physicians to pursue its course of action with an almost identical set of proposals which the official representative body of the medical organization has so recently considered and rejected. We do not question the sincerity or high purpose of these eminent men; we merely question their judgment as to their method of procedure. It is inconceivable that the Committee and the 430 signers could have given serious consideration to the possibilities of the view which the public and various anti-medical groups would be entitled to take of this widely publicized evidence of internal disunity within the medical organization. No one will deny the right of any physician to disagree with the action taken by the House of Delegates at Atlantic City, and no one will question the effort of any physician or group of physicians who seeks to bring about a modification of such action, providing these efforts are made through the regular channels established by organized medicine for such purposes.

Finally, the principles, proposals and declarations in themselves merit a word of comment. Obviously, a group of prominent physicians believes the time has come when some alteration in the present system of medical practice is indicated. We can understand that those vested with the responsibility of managing medical institutions whose financial support comes largely from endowments, have just cause for concern as to the future source of their funds by reason of the depression years and of the present trend of government whose professed aim is to take from the "haves" and give to the "have nots." We can understand that the present load of indigents and of "medical indigents" is more likely to be a permanent load rather than an emergency one, and that the dispensing of medical service may need some adjustments in these quarters. We can also understand that to the young physician, ready to start in practice, or to the physician, either in the clinic or in the field whose practice

consists largely of gratuitous service—to these the appeal of a guaranteed income, such as accompanies the rank of a lieutenant or a captain in the army, can be very great. However, we are firmly of the opinion that the solution of such problems is not to be found in federal financing, if the best interests of American medicine are to be preserved. It is unthinkable that the federal government could undertake the dispensing of any considerable sums of money for these purposes without the establishment of special bureaus, and bureaus bring political intervention, with their inevitable accompaniment of wasting the taxpayers' money and lowering standards. If public funds are required to meet medical needs which have arisen as the result of changes in our economic and social life, then let the source of them be our local and state taxing bodies, and let each county medical society throughout the country be responsible for the highest type of medical care for every citizen within its borders, be they self-supporting, medically indigent, or indigent. Above all, let the medical profession not only present a unified front to the public; let the profession truly be and function as a unit, for in this way, and *only* in this way, can it continue to maintain its present high standards, and merit its deserved prestige.

VI. TREATMENT OF CARDIAC INFECTIONS*

Infections harm the heart first, by the bacterial poisons that are carried to it from distant foci; second, by infections within the organ itself; and third, by the scarring which results from the healing of infectious lesions.

Rheumatic fever is by far the most important infection of the heart. It is a real white man's plague and is second only to tuberculosis in the amount of crippling and the number of deaths it causes among the young. Like the bacillus of tuberculosis, the organism responsible for rheumatic fever seems to be able to exist in the body for long periods, the disease usually running a chronic course characterized by frequent recurrences. Since the causative organism is not known, the making of a correct diagnosis is nearly always difficult, and at times impossible. This must be made by the proper grouping of the following signs and symptoms which are known to be of rheumatic origin: throat angina; fever with profuse sweats and leukocytosis; cardiac involvement; chorea; growing pains; subcutaneous nodules; and migratory, non-suppurative, non-deforming arthritis. When typical arthritis, fever, leukocytosis and signs of mitral involvement are

present, the correct diagnosis is easy to make, but it should be borne in mind that the faint diastolic murmur heard only near the apex, or the presystolic crescendo murmur of mitral stenosis, is evidence of the existence of rheumatic scarring rather than rheumatic infection. It is in the recognition of early atypical cases that physicians have the opportunity of doing "work not unbecoming men who strove with Gods."

The prophylactic treatment of rheumatic fever will remain unsatisfactory as long as the real cause is unknown. The removing of rheumatic children to warm climates leads to marked improvement in their health, but it is not clear just what part of this benefit is due to better hygienic care and what part is due to the altered climate. Tonsillectomy done for the purpose of halting the infection is as valueless as the removal of a chancre for the cure of lues. Properly cared for children are less likely to develop rheumatic disease than those who are not. A child who is below par and with growing pains might justly be considered as suffering from rheumatism, especially if a persistent mild sore throat is present, and it is remarkable how quickly such a child responds to good hygienic care and the proper administration of salicylates.

Salicylates are used for rheumatism by practically all physicians and the consensus is that they are the most valuable drugs for the relief of rheumatic symptoms. It is also generally admitted that the salicylates fail to prevent all rheumatic complications, but it seems to be "a la mode" for those who aspire to be considered scientific physicians to maintain stoutly that they have no curative value in this disease. The available evidence does not justify such a pessimistic conclusion. Since the salicylates are the only effective drugs known for this malady they should be given a more thorough trial before they are condemned. This may be safely done, for they are far less toxic than arsphenamine and the heavy metals used in syphilis, and even less harmful than quinine, which is used in the cure of malaria. If salicylates have been given up to the individual's physiologic tolerance, at least over as long a period as quinine is given for the eradication of malarial organisms (ninety days); or better still, if salicylates have been given as long as the anti-syphilitic treatment is continued, and if they have been administered to a sufficiently large series of genuine cases without preventing the usual recurrences, there is still hope that salicylates are more than drugs giving symptomatic relief in rheumatic fever.

In my own series of cases observed in private and hospital practice, I have never seen any harm done to patients by the continuous administration

* Editor's Note: This is the sixth article in a series of editorials prepared by Dr. Daniel J. Glomset. Earlier issues of the JOURNAL carried the first five parts.

of the drug over a period of one to several years unless an idiosyncrasy was present, nor has there been any recurrence in persons who followed instructions. For this reason the method employed for over ten years is offered here: sodium salicylate is given in 0.6 to 1.2 gram (ten to twenty grains) doses every three hours until symptoms of salicylism appear. The drug is then withheld until the toxic symptoms subside, after which two-thirds of the dose which proved toxic is continued daily for one or two years. Thus if a dose of six grams was toxic, the maintenance dose per twenty-four hours would be four grams (sixty grains). When the patient grows weary of the sodium salicylate, acetyl salicylic acid (aspirin) with an equal amount of sodium bicarbonate is substituted for a season. The equivalent dose of aspirin is approximately two-thirds that of the sodium salt. A certain percentage of people have an idiosyncrasy to salicylates, and for these patients, pyramidon is used. This drug is approximately six times as strong as aspirin, but according to Taussig* it, too, may be given in appropriate doses over long periods of time.

In children with symptoms suggestive of rheumatic disease without demonstrable cardiac involvement, or in cases where there is a history of a former attack of rheumatic disease and the child is all but symptom free, the administration of the salicylates and the additional proper hygienic care is all the treatment which is needed. However, when a real rheumatic bout is present with fever, arthritis, rapid pulse, and a dilating heart, bed rest must be added to the measures already mentioned. The patient is then put to bed in a cheery room, joint discomfort is cared for by heat and immobilization, restlessness by mild sedation, and if anemia is present the proper amount of iron is added to an abundance of easily assimilable foods. The rest period should be prolonged at least a fortnight beyond the time when all symptoms of the infection have disappeared, and after this, the period of convalescence should be extended for another month or more, since no harm can come to the young patient from being too cautious.

It is in the after-care of a patient who has recovered from an attack of rheumatic disease that our profession in the past has failed to do its full duty. Since recurrences are the rule, every known means must be employed for their prevention. It is for this purpose that salicylic therapy is continued for such a long time. It is wise to re-examine the patient immediately after his recovery. If, at that time, chronically infected tonsils

are found, these should be removed at a propitious moment while the patient is taking toleration doses of salicylates. If signs of mitral involvement are present it is comforting to realize that even very harsh systolic blows at times disappear in children. On the other hand, the onerous signs of mitral stenosis may not manifest themselves until months after the patient was considered well. When evidence of mitral disease is heard it is well to make a fluoroscopic examination in order to determine if an enlarged auricle has pushed the esophagus out of place. If such is the case, the prognosis is definitely graver than when no auricular enlargement can be detected. When mitral stenosis is present, the doctor, the family, and the sick must realize that the patient has become a cardiac cripple and that in order for such a victim to get the most out of life definite steps should be taken not only to maintain the best possible general health, but also to prevent all physical and mental hazards. The individual is obliged throughout life to conserve his cardiac energy. He ought to become a pencil-pusher rather than a wood-cutter.

If the patient has intelligence enough to maintain the doctor as a counselor and a friend throughout his life, there will come a time when the unmarried rheumatic individual takes steps to enter into a marriage contract, and comes seeking medical approval for this step. At such times the party of the second part should be told the whole truth. It does not usually alter the situation in the least, and the physician's caution about having children apparently passes in one ear and out of the other. Yet, the suggestion of the danger of childbirth to a spouse with mitral disease seems to ripen her maternal instinct, so that sooner than otherwise, she faces the doctor with the query, "Is it safe for me to have a baby?" The profession has carried on considerable ambiguous discussion about this natural and legitimate question. The simple facts seem to be: when signs and symptoms of congestive failure are present, pregnancy should be forbidden, and terminated as soon as possible if conception does take place. If heart failure is not present, pregnancy can safely be permitted, provided that as the pregnancy progresses the woman will curtail her other activities more and more so as to keep the heart's daily output of energy constant.

By exercising sane limitations of effort and by a careful hygienic mode of living many a rheumatic cripple may realize a certain fullness of life; but too many begin to show evidence of a failing heart early in life. Such patients are then to be handled as outlined under the treatment of congestive failure.

* Taussig, Helen B.: The management of children with rheumatic heart disease; (compensated and decompensated). *Med. Clin. N. Amer.*, xviii:1559-1578 (May) 1935.

THE 1937 CHRISTMAS SEAL SALE

Thirty years ago nearly two hundred people out of every 100,000 of our population were dying from tuberculosis. During these years three and one-half million men, women and children have died from this preventable disease, but had the mortality rate prevailed, an additional two and one-half million would have died. Today the tuberculosis mortality rate is fifty-five per 100,000 in this country, and there are more than 500,000 people sick with tuberculosis.*

This year marks the Thirty-first Annual Christmas Seal Sale, conducted in this state by the Iowa Tuberculosis Association, with the assistance of local health associations and allied groups. This yearly event has become recognized as symbolic of the greatest health movement which the world has ever known. The proceeds of the sale are used in the aid of families affected by sickness, in child health work, nutrition, furnishing of milk, school health inspection, dental inspection, public health nursing, fresh air camps, clinics, health education, and school health supplies. The state association uses its share of the funds in educational work for the prevention of tuberculosis, for the promotion of health legislation, and for the publication and distribution of literature and other publicity materials.

The chief concern of the thousands of men and women working with the national, state and local tuberculosis associations is to find the disease in its early stage when cure may be more easily effected. The greatest number of deaths occur between the ages of fifteen and forty-five years, for which age group tuberculosis is still the leading cause of death. In spite of the steady improvement of diagnostic methods, only thirteen per cent of the patients admitted to sanatoria are found to be in the early stages of the disease. This means that there are far too many individuals with unrecognized cases of tuberculosis infecting their families and neighbors. A recent editorial in *Hygeia*, by Dr. W. W. Bauer of the American Medical Association, points out that although

Christmas Seals!



Buy and Use Them

much progress has been made during the past three decades in the fight against this disease, the "battle from now on will be harder and slower because the stiffest part is ahead." Discovering tuberculosis cases and preventing contact with them is of the most vital importance, because it is only by finding these hidden sources of infection that we can hope to be successful in stamping out this needless cause of death.

One of the slogans for the current campaign is "Cooperation Must Continue," and we feel it is one particularly well worded for the situation. The medical profession has every means in its possession today for diagnosing early cases of tuberculosis; that is, the tuberculin test, the fluoroscope, and the x-ray. However, physicians can do little or nothing without the active cooperation of the average man and woman. To them the medical profession must leave the responsibility of recognizing the first danger signs, and what is more important, the necessity of seeing a physician at the earliest possible time when these symptoms develop. This, then, is the task of every physician, every nurse, every health worker, and every one interested in public health—to educate the entire population in the knowledge that tuberculosis is a preventable disease, and that with the proper cooperation it need never be listed as a cause of death.

The liberal purchase and use of Christmas seals this month will aid materially in the amount of educational work the state and national associations can conduct throughout the nation during 1938. Let us bear in mind that tuberculosis is a universal problem, because cases of tuberculosis which are allowed to go undiscovered endanger everyone. Additional burdens are being placed on existing health agencies, and the need for maintaining high standards of health protection and nutrition are greater than ever before. Therefore, it is essential that the Seal Sale this year shall reach a new height, and it is to be hoped that the citizens of Iowa will continue to respond in their usual generous manner.

* Statistics furnished by C. L. Newcomb, Director of the Seal Sale, National Tuberculosis Association.

THE IOWA USE TAX

Several inquiries have been received at the office of the Iowa State Medical Society in regard to a circular letter mailed from the office of the Iowa State Board of Assessment and Review over the signature of H. A. Rininsland, concerning the Iowa Personal Property Use Tax. An editorial on this tax appeared in the August issue of the JOURNAL of the Iowa State Medical Society, and a conference held yesterday with Mr. Rininsland established the fact that the statements in that editorial were correct. They are re-stated again at this time in an effort to clarify the matter for other physicians.

Physicians and surgeons are regarded as users or consumers of tangible personal property (medicines, dressings, bandages, equipment, and the like), irrespective of whether or not such items as drugs are billed separately to the patient. If such supplies are purchased in the state of Iowa, the retail sales tax of two per cent should be paid on them at the time of purchase. If they are purchased outside of the state of Iowa, the physician becomes liable for the use tax, which is two per cent; provided, however, that a tax of two per cent or greater has not been paid to the state in which the purchase was made. "The Use Tax Law imposes a tax of two per cent upon the use of tangible personal property in this state upon which there has not been paid either the Iowa Retail Sales Tax or a tax of two per cent or greater imposed by another state."

Physicians who buy their drugs and equipment in Iowa, or in states in which a retail sales tax of two per cent or more is imposed, are not liable for the Use Tax. Physicians who buy drugs and equipment in states having no sales tax, become liable for all such purchases under the Iowa Use Tax Law, and must keep records of such purchases on Form No. 510 and file them quarterly.

HOSPITALS IN RURAL DISTRICTS

It has long been felt that adequate hospital facilities were lacking in many rural districts of the United States, and that consequently recent graduates from medical schools were not entering the practice of medicine in these less populated communities. In spite of substantial progress in the general field of medical care, health services in these rural areas were not so well developed as those usually found in urban centers.

In an effort partially to correct this situation The Commonwealth Fund of New York, during the past few years, has endeavored to provide one new hospital each year for a predominantly rural community which can meet its share of the costs, and operate the institution in accordance with gen-

erally accepted standards. Eight such hospitals have been built, the most recent being dedicated October 3 at Tupelo, Mississippi. The ninth is now under construction at Ada, Oklahoma, and the tenth has been awarded to Provo, Utah. The plan of the organization is to establish hospitals with a capacity of between twenty-five and fifty beds in communities having a population large enough to make good use of such accommodations and capable of meeting operating costs. The Fund furnishes plans, specifications, and architectural supervision for the construction, and not less than \$200,000 as a contribution toward capital costs. Communities are required to raise from \$40,000 to \$60,000 for their share of the capital cost, and must provide in addition a site (with service connections) and from \$10,000 to \$15,000 to meet the deficit of the first year's operation. Ownership and administrative responsibility are lodged in a local corporation, organized not for profit, which contracts with the Fund to operate the hospital in agreement with specified standards. These standards are such as to guarantee its integrity as a community institution, and to maintain its approval by the American College of Surgeons.

Hospitals founded under this program are now operating in Murfreesboro, Tennessee; Farmville, Virginia; Glasgow, Kentucky; Farmington, Maine; Wauseon, Ohio; Beloit, Kansas; and Kingsport, Tennessee. The experience in these various communities indicates that the hope of the Fund has been realized, and that the standards of medical services in these rural areas have been raised to a considerable extent.

SPRING COURSES

The Speakers Bureau Committee held a meeting in Iowa City, November 12, at which time the postgraduate and "refresher" courses for spring were discussed. Council Bluffs, Rockwell City, Clinton and Iowa City were chosen as sites for the postgraduate courses. Four "refresher" courses will be held. Storm Lake and Clarion were decided upon as locations for two of these courses. Dr. S. D. Maiden announced that the plan which has been followed this fall for giving talks to college student bodies will be resumed at the beginning of the year and offered to those colleges which desire it.

RADIO SCHEDULE

WOI and WSUI—Wednesdays at 4:00 p. m.

Dec. 1 Colitis, C. A. Trueblood, M.D.

Dec. 8 X-ray, Searchlight of Medicine, H. A. Spilman, M.D.

Dec. 15 Winter Ills and How To Avoid Them, A. D. Woods, M.D.

Dec. 22 The Season's Gifts, Dennis Kelly, M.D.

Dec. 29 Your Health and the New Year, J. G. Grant, M.D.

SPEAKERS BUREAU ACTIVITIES

HOLIDAY GREETINGS

"As the Holiday Season approaches, I want to extend to the profession greetings and felicitations upon the success it has attained in making the Speakers Bureau an outstanding project.

"The Speakers Bureau through its many agencies of endeavor, contacts more doctors than any other agency of organized medicine. It entertains, enlightens and educates. The splendid work and cooperation by the doctors and other agencies makes possible a distribution of medical information that reaches out and impresses the general public with honesty and sincerity.

"I am very happy to have been able to help with the program of the Speakers Bureau, and want to extend the Season's Greetings to the medical profession and all who have helped us in our work."

Earl B. Bush

"As the year draws to a close, we of the Speakers Bureau Committee pause and think of the interest and cooperation we have had from the profession throughout the State. Although I have been extremely gratified at the interest and attendance at the meetings, both professional and lay, that it has been my privilege to address, I know it was the interest created by the Speakers Bureau that was responsible for both.

"The wonderful response that we have had to the releases in the daily press by the profession, laity and editors makes us feel the public and profession are receiving benefit from this activity of the Speakers Bureau.

"To the profession who has cooperated so loyally with the Speakers Bureau Committee may I, as a member, express my appreciation and wish you the compliments of the Season."

James Dunn

"The incisive and scientific manner in which the subjects are presented on the postgraduate courses is uplifting to a doctor far removed from the university and other medical centers of Iowa. Upon returning home from each session one feels himself more a doctor again and less a tax gatherer.

"The spirit of comradeship is exemplified where doctors foregather. It is evident between the eminent specialist and the obscure practitioner. All this is good and worthy of continuance.

"The Speakers Bureau Committee appreciates the wholehearted support with which the profession of Iowa has entered into the activities of the Bureau."

Harold L. Brereton

"The members of the Speakers Bureau desire to extend the Season's Greetings to the profession of the State. The past year has been a busy one for the Bureau as we are constantly increasing our activities

in an attempt to fulfill our mission of disseminating information to the public and affording the physicians of Iowa opportunities to increase their own knowledge.

"We sometimes wonder if we are accomplishing our purpose in carrying on this work in the manner in which we have, or whether or not it could be better realized by adopting different methods or directing our endeavors along different lines. For that reason we welcome constructive criticism, as it is only through such suggestions from the men in general practice that we are able to chart our course.

"We hope that we have rendered worthwhile services during the past year and will make an honest effort to improve upon them during the coming year. We greatly appreciate the splendid cooperation that we have received from the profession throughout the State because without this, most of our efforts would be wasted. We hope that this splendid spirit continues. We hope that through the Speakers Bureau activities we are availing the physicians of the state the privileges of personal contact with their fellow practitioners. It is only through such experiences that we can hope to see eye to eye the many problems that confront the profession today.

"Wishing you a Merry Christmas and a bounteous New Year."

Sydney D. Maiden

"The aim of the Speakers Bureau is twofold: to help maintain in our state the best informed and the most harmonious medical profession in any country, and to keep our lay citizens sufficiently well informed about health matters to be able to enjoy to the full the blessings of medical science.

"For eight years we have labored toward this goal. Every member of the Speakers Bureau realizes that the credit for whatever contribution we have made belongs largely to the hundreds of physicians throughout the State who have, in season and out of season, willingly and enthusiastically donated their ability and time toward our cause.

"We want to thank you one and all for the gifts of the past and bespeak from each member of the State Medical Society your continued friendly criticism and your invaluable help for the future, to the end that the people of Iowa may suffer less."

Daniel J. Glomset

"As a long-time member of the Speakers Bureau Committee, I realize how much we owe to the physicians who have helped us with our work. All we have done has been made possible by the kindness and cooperation of many individuals who believed in our purpose as we did. To them I want to express my sincerest thanks, and the hope that Christmas and the New Year will bring them the things they prize most deeply."

Lester C. Kern

WOMAN'S AUXILIARY NEWS

MRS. FRED MOORE, *Chairman of Press and Publicity Committee*
3407 Lincoln Place Drive, Des Moines

President—MRS. S. E. LINCOLN, 2220 East Thirty-second Street, Des Moines

Secretary—MRS. JAY C. DECKER, 722 Thirty-sixth Street, Sioux City

Treasurer—MRS. WILLIAM R. HORNADAY, 3011 High Street, Des Moines

MENTAL HEALTH AND MENTAL HYGIENE

The University of Chicago and the American Association for Adult Education, as the result of a nationwide survey, found that the average individual's chief concern is his health; and his second, the problem of getting along with other people. This finding proves that the general public today is both physical and health minded.

Some people dislike the terms mental health and mental hygiene because they suggest mental disease. It is true that mental health and mental disease are fundamentally medical problems and that mental hygiene bears a close relationship to psychiatry. In fact it is the same relationship that public health work bears to medicine in general. Mental hygiene is an important part of the public health movement and may be defined as an organized community response to a recognized community need. Mental hygiene deals entirely with the factors which modify the resistance of the individual to the stresses of life. Its aim is to enable the person to work out a sound balance between the various conflicting trends of human nature and to deal satisfactorily with health problems as well as with the more complex life situations.

The mental hygiene movement had its inception in 1908 under the leadership of Clifford W. Beers. Since that time "the humanization of legislation, the improvement of institutional facilities," and the development of mental hygiene clinics have made more progress than in all the centuries that went before. Dr. Winslow, professor of public health at Yale University, says that the really great thing which the mental hygiene movement has contributed to the world at large is "an altogether new attitude toward mental disease and a new comprehension of human personality."

Mental hygiene might be described as that which allows an individual to realize the greatest success within his capabilities with a maximum of satisfaction to himself and to society; and with a minimum of friction and tension. In other words, if we do the thing that is wise and right at the moment and do it joyfully we can consider ourselves mentally healthy. Dr. Andrew H. Woods, Medical Director of the State Psychopathic Hospital at Iowa City, says that if we would use ninety-nine per cent of our effort in doing the thing before us and give one per cent to foresight, in order to keep toward our goal, we would succeed

in our undertaking and have a zest for living. The trouble with most of us is that we put twenty per cent of our energy into regret for the past, seventy-nine per cent into worrying about the future, and only one per cent into the problem facing us.

The home and the school play important parts in every individual's life, for it is through these social units that the knowledge of mental health is given to the child. Dr. David Seabury in his book, "What Makes Us Seem So Queer," deals entirely with the habit formed maladjustments which have their beginnings in childhood and are a direct result of training. He says that normal outlets are seldom found for a child's energies. In fact he is usually treated as an "object to control, to suppress, to instruct and to punish." Dr. Seabury believes that too many do's and don't's block a child's normal expression and shut him off from a natural pleasure in the use of his own capacities. He thinks that they also deny him an experimental and adventurous attitude by forcing upon him ideas and patterns contrary to the normal expression of his nature.

There is still much to be done along mental hygiene lines. When we learn how to look forward with the child instead of backward with the adult we will have made great strides toward the positive goals of health, efficiency and happiness—goals to which every individual should have a right.

Mrs. Russell C. (Myrtle) Doolittle

Suggested Reading

1. A Mind That Found Itself, Clifford W. Beers, Doubleday Doran and Company, Garden City, New York, 1923.
2. The Return to Religion, Henry C. Link, The Macmillan Company, New York, 1936.
3. What Makes Us Seem So Queer, David Seabury, McGraw-Hill Book Company, New York, 1934.
4. Keep Your Wits, David Seabury, McGraw-Hill Book Company, New York, 1935.

New Auxiliary Group Organized

Upon the invitation of the members of the Madison County Medical Society, Mrs. S. E. Lincoln of Des Moines, president of the state organization, and Mrs. Channing G. Smith of Granger, chairman of the state organization committee, attended a meeting held in

Winterset, Monday, November 8, for the purpose of organizing a woman's auxiliary to the Madison County Medical Society. After a thorough but informal discussion of the ideals, objectives, and work of the national and state groups, the organization was completed and the following officers were elected: Mrs. C. B. Hickenlooper of Winterset, president; Mrs. H. E. Carver of Earlham, vice president; and Mrs. J. F. Veltman of Winterset, secretary and treasurer. The Auxiliary will meet at the homes of the members on the second Monday evenings of every month for a social hour followed by a program.

We are very glad to welcome the members of this new group into our membership, and appreciate their enthusiasm for the work. We feel they will enjoy this added opportunity to further the interests both of their husbands and of the medical profession.

Mrs. Channing, Smith, Chairman
Organization Committee

Dubuque Auxiliary Entertains Nurses

The Iowa State Association of Registered Nurses held its annual meeting in Dubuque, October 11, 12 and 13, and members in attendance were entertained Tuesday afternoon, October 12, by the Auxiliary to the Dubuque County Medical Society, at a tea served in the spacious parlors of the Lull-Burch Nurses Memorial Home. The charm of the tea tables was enhanced by the soft light of candles, which were lighted both on the tables and around the room.

Mrs. H. E. (Florence) Thompson

Northwest Iowa Auxiliary Meets

Members of the Northwest Iowa Auxiliary were guests of the doctors of Lyon, O'Brien, Osceola and Sioux County Medical Societies, at a banquet held in Sheldon at the Arlington Hotel, Monday, November 1. Members of the Auxiliary adjourned to the home of Mrs. H. J. Brackney for the business session. About fifteen members were in attendance.

Mrs. Frank Reinsch, Secretary

Pottawattamie County Auxiliary

The Auxiliary to the Pottawattamie County Medical Society has conducted some interesting and constructive programs under the leadership of our president, Mrs. Robert Moth. The meetings are in charge of an active program committee and are held once each month on the same evening that the doctors meet. The members convene for a dinner arranged by a special group who served as hostesses during May of this year. The graduating nurses of our hospitals were entertained at a tea given at the home of Mrs. L. G. Howard in Council Bluffs. About sixty-five persons enjoyed an excellent program at this affair.

Mrs. I. Sternhill, Secretary

THE AMERICAN MEDICAL ASSOCIATION 1938 ANNUAL SESSION

The Board of Trustees of the American Medical Association has appointed Dr. Howard Morrow of San Francisco as general chairman of the local committee on arrangements and he, in turn, has named Dr. F. C. Warnshuis, chairman of the local committee on hotels. Fellows are requested to send in their requests for hotel accommodations to Dr. F. C. Warnshuis, Suite 2004, 450 Sutter Street, San Francisco, California, giving names of members in party, type of accommodations desired and the time of arrival and departure.

Assignment of accommodations and their confirmation will be made for each reservation request. Do not write directly to any hotel, as all reservations will be cleared through the hotel committee. Banquet rooms and special dinner reservations must be made through the hotel committee. The same rule applies to special boards and allied organizational groups.

San Francisco affords first-class hotels capable of providing accommodations for 15,000 fellows and members of their families. However, early reservations are requested to avoid confusion and to insure individual choice.

Those planning to visit San Diego, Los Angeles, Santa Barbara, Del Monte, Yosemite, or other California cities, are urged to write in advance for hotel reservations in these cities. Following the American Medical Association Annual Session, the Rotarians, Kiwanians, and Shriners hold their annual sessions in California. It is quite probable that many of the members of these organizations will visit points of interest before their conventions, thereby creating heavy demands on local hotels throughout the state.

SOCIAL HYGIENE DAY

National Social Hygiene Day, the second observance of which has been set for February 2, 1938, by the American Social Hygiene Association, marks the high point in the year round effort to gain popular interest and support for the activities of health authorities and the medical profession in dealing with syphilis and gonorrhea. Official and voluntary agencies concentrate their efforts at this time on giving the subject the widest possible publicity, by arranging for meetings of interested groups, press stories, and appropriate radio broadcasts.

The first National Social Hygiene Day, February 3, 1937, was an immediate success in accomplishing its purpose. "Stamp Out Syphilis—Enemy of Youth" is the slogan for the 1938 Social Hygiene Day meetings. Particular emphasis will be laid on the control of syphilis among the twenty to thirty year age group, in which more than half of all new infections occur.

Suggestions for meetings and practical community programs may be obtained from the American Social Hygiene Association, 50 West 50th Street, New York City. The association will be glad to supply interested persons and groups with materials, such as exhibits, films, and literature.

SOCIETY PROCEEDINGS

Bremer County

William Malamud, M.D., professor of psychiatry at the State University of Iowa, College of Medicine, was guest speaker for the Bremer County Medical Society, Thursday, November 18, at a meeting held in Waverly.

Cerro Gordo County

The Cerro Gordo County Medical Society on Tuesday, November 16, was addressed by H. W. Morgan, M.D., of Mason City, on the subject of Chemical Analysis of Body Fluids in the Determination of Intoxication. Following this presentation, the legal aspects of the subject were discussed by County Attorney M. L. Mason.

H. W. Morgan, M.D., Secretary

Clayton County

Two physicians from Evanston, Illinois, furnished the scientific program for members of the Clayton County Medical Society, when that organization met in Elkader, Wednesday, November 10. Almost fifty physicians and guests from Clayton, Allamakee, Dubuque, Fayette and Winneshiek counties were in attendance at the meeting. Dwight F. Clark, M.D., spoke on Dislocations of the Patella, and R. A. Scott, M.D., discussed The Management of Gynecologic Problems Incident to the Adolescent and Menopausal Periods.

Fremont County

Members of the Fremont County Medical Society were guests of the Sidney Community Club, Friday, November 19, in Sidney. William Kerr, M.D., of Randolph, state representative for Fremont County, spoke on Taxation; and A. E. Wanamaker, M.D., of Hamburg, presented a talk on Countywide Immunization with Toxoid.

Hardin County Annual Meeting

Officers elected for the coming year at a meeting of the Hardin County Medical Society held in Eldora, Monday, November 22, include: Dr. F. W. Houlihan of Ackley, president; Dr. R. J. Johnson of Iowa Falls, vice president; Dr. W. E. Marsh of Eldora, Secretary, and Eastman Nuckolls of Eldora, treasurer.

Henry County

C. K. McCarthy, M.D., of the Iowa State Department of Health, addressed the Henry County Medical Society, Friday, November 5, on Early Diagnosis of

Tuberculosis by the Use of Tuberculin Serum and the Use of the X-Ray.

Mills County

The Mills County Medical Society, in a joint meeting with Fremont and Montgomery County Medical Societies, met at the state institution in Glenwood, Thursday, October 28. M. C. Hennessy, M.D., of Council Bluffs, spoke on Acute Surgery in the Right Upper Quadrant, and C. K. McCarthy, M.D., of Des Moines, presented an illustrated lecture on The Treatment of Tuberculosis by Pneumothorax.

Pocahontas County

James Jackman, M.D., of Laurens, addressed the Pocahontas County Medical Society, Friday, November 26. Dr. Jackman spoke on Blood Transfusion.

B. A. Smillie, M.D., Secretary

Polk County

The regular meeting of the Des Moines Academy of Medicine and Polk County Medical Society was held Tuesday, November 30, at Broadlawns Tuberculosis Hospital, with the following scientific papers being presented: Collapse Therapy in Pulmonary Tuberculosis, John Russell, M.D., Des Moines; and Lesions of the Esophagus, with a lantern slide demonstration, Arnold M. Gordon, M.D., also of Des Moines. A social hour followed the evening program.

Scott County Annual Meeting

The following officers were elected at the annual meeting of the Scott County Medical Society, held in Davenport, Tuesday, November 2: Dr. L. A. Block, president; Dr. W. F. Skelley, vice president; Dr. H. A. Meyers, secretary; Dr. A. J. Lenzmeier, treasurer; Dr. W. C. Goenne, delegate; and Dr. R. P. Carney, alternate delegate.

H. A. Meyers, M.D., Secretary

Wapello County

More than seventy-five physicians and guests attended the joint meeting of the Wapello County Medical Society, the Ninth Councilor District, and the Sunnyslope Tuberculosis Sanatorium, held at the institution east of Ottumwa. The featured speaker of the evening was Willard Van Hazel, M.D., associate professor of surgery at the University of Illinois, College of Medicine, who addressed the gathering on Chest Surgery in Tuberculosis.

Washington County

The Washington County Medical Society has completed the following series of meetings held each Tuesday evening:

October 26—A Demonstration of the Prenatal Examination, E. D. Plass, M.D.

November 2—Postdelivery Care of the Mother During the First Two Weeks, William F. Mengert, M.D.; Postpartum Care of the Baby, Miss Merrell; Care of the Mother and the Baby (moving pictures), and The Final Check-up, Dr. Mengert.

November 9—Delivery Technic as Used at the University Hospital, J. H. Randall, M.D.

November 16—Childhood Syphilis, P. C. Jeans, M.D.

November 23—Importance of After-care in Children, J. D. Boyd, M.D.

There was a fine attendance throughout the meetings, and the members of the Washington County Medical Society greatly appreciate the splendid course conducted for them by these professors from the State University of Iowa, College of Medicine.

W. S. Kyle, M.D., Secretary

Webster County

Jennings C. Litzenberg, M.D., head of the department of obstetrics and gynecology of the University of Minnesota Medical College, spoke before the members of the Webster County Medical Society at a dinner meeting held Friday, November 5, at the Wahkonsa Hotel in Fort Dodge.

Woodbury County

Members of the Woodbury County Medical Society met in regular session, Thursday, November 18, and heard F. R. Peterson, M.D., professor of surgery, State University of Iowa, College of Medicine, present a paper on Treatment of Malignancies of the Large Bowel and Rectum. An interesting feature of the evening's program was an illustrated lecture given by W. E. Cody, M.D., on A Recent Visit to European Clinics.

W. H. Gibbon, M.D., Secretary

Bremer County Interprofessional Group Organized

An interprofessional organization was effected for Bremer County when physicians, dentists, pharmacists, veterinarians, and nurses of that county met Monday, November 15, in Waverly. The following officers were elected: E. C. Kepler, M.D., president; T. J. Wagoner, D.V.M., vice president; and Miss Gladys Stieger, R.N., secretary and treasurer.

Dubuque County Interprofessional Association

Dr. F. P. McNamara was elected president of the newly organized Dubuque County Interprofessional Association, at a meeting held in Dubuque, Tuesday, November 9. Other officers are: Charles Falken-

hainer, Ph.G., vice president; Miss Clara Hennen, R.N., secretary; and J. G. Nemmers, D.D.S., treasurer.

Iowa and Illinois Central District Medical Association

The winter meeting of the Iowa and Illinois Central District Medical Association was held at the Le Claire Hotel in Moline, Illinois, Friday, December 10. The following program was presented: Repair of Lacerations of the Face, L. H. LaDage, M.D., of Davenport; Fractures, Paul B. Magnuson, M.D., of Chicago; and Fractures and the General Practitioner, Frederic J. Cotton, M.D., of Boston. The subject of fractures was discussed by Arthur Steindler, M.D., of Iowa City, and Drs. M. S. Dondanville, E. B. Neff and L. D. Barding, all of Moline, Illinois.

The next meeting of the association will be held Friday, April 1, at which time the guest speaker will be A. Graeme Mitchell, M.D., professor of pediatrics at the University of Cincinnati, College of Medicine.

James Dunn, M.D., Secretary

PERSONAL MENTION

Dr. R. E. Robinson of Waverly and his son, Dr. Francis Robinson of Milwaukee, Wisconsin, recently sailed for Europe, where they will spend two months attending various clinics.

Dr. John I. Marker of Davenport was the guest speaker of the Washington Women's Club when that organization met on Wednesday, November 3. Dr. Marker chose for his subject "Mental Hygiene."

Dr. A. A. Blum, who has been practicing in Shelby, Nebraska, for the past ten years, has recently located in Wall Lake. Dr. Blum was graduated in 1926 from Creighton University School of Medicine.

Dr. S. W. Barnett of Cedar Falls addressed the Manual Arts Parent-Teacher Association of Cedar Falls on Monday, November 22. Dr. Barnett spoke on "Social Hygiene."

Dr. A. H. Grau of Denison recently left for Boston, Massachusetts, where he will spend six weeks in post-graduate study at Harvard University School of Medicine.

Dr. Aldis A. Johnson was the guest speaker for the Council Bluffs Women's Club on Wednesday, November 10. Dr. Johnson spoke on "Syphilis."

Dr. L. C. Neveln of Middle Amana has located in Liberty Center, where he will take over the practice of the late Dr. J. H. Moore. Dr. Neveln was graduated from the State University of Iowa, College of Medicine, and completed a year's internship at University Hospital. He also served on the staff of the Anesthesia Department at the University.

Dr. Edwin B. Winnett of Des Moines addressed members of the Iowa State Dietetic Association when that group convened at Hotel Fort Des Moines on Thursday, November 4. Dr. Winnett chose for his subject "The Romance of Diabetes."

Dr. A. A. Johnstone of Keokuk left Sunday, November 14, for several months' study in various clinics of Europe. Dr. Johnstone expects to spend most of his time at clinics in Vienna; however, he will make an extensive tour of the important cities on the continent.

Dr. E. C. Knight, who has been practicing in Winterset for the past several months, has located in Garwin, where he has taken over the practice of Dr. F. T. Launder.

Dr. J. H. O'Donoghue of Storm Lake addressed members of the Emmetsburg Women's Club on the subject of "Cancer" when that group met on Monday, November 1.

Dr. Walter A. Anneberg of Carroll was the guest speaker for the meeting of the Clio Club of Carroll on Thursday, November 11. In connection with his talk Dr. Anneberg showed colored motion pictures of his recent European trip.

Dr. William Malamud, professor of psychiatry at the State University of Iowa, College of Medicine, will serve as an examiner on the National Board of Neurology and Psychiatry in New York City in December, for the purpose of certifying those who pass their examinations as specialists in either neurology or psychiatry.

Dr. Prince E. Sawyer gave the principal address to members of four districts of the Iowa Pharmaceutical Association when that group convened at the Martin Hotel in Sioux City on Friday, November 19. The subject of Dr. Sawyer's address was "Interprofessional Relationship."

Dr. Elmer M. Smith of State Center was guest speaker for the Belle Plaine Rotary Club on Tuesday, November 16. Dr. Smith chose for his subject "Preventive Medicine."

Dr. Otis Wolfe of Marshalltown gave two lectures at the postgraduate course in eye surgery this month at the Chicago Eye, Ear, Nose and Throat Hospital. His lectures were entitled "Surgery of Juvenile Cataract," and "Glaucoma Following Cataract Operation."

Dr. Thomas F. Thornton of Waterloo addressed the student body of Wartburg College in Waverly on

Tuesday, November 2, on the subject "Achievements of American Medicine."

Drs. E. E. Munger, Jr., and Frank D. Edington of Spencer were speakers for the meeting of the Riverton Township Farm Bureau on Friday, November 12, in Spencer. Dr. Munger spoke on "Cancer," and Dr. Edington on "Contagious Diseases."

Dr. G. H. Steele of Belmond furnished the program for the Study Club at Thompson on Monday, November 8. Dr. Steele spoke on "The Study of Syphilis" and showed a film dealing with the educational phase of this disease.

Dr. M. E. Barnes of Iowa City addressed a general meeting composed of members of the Iowa City Women's Club on Friday, November 19, on the subject of "Public Health."

Dr. C. D. Mercer of West Union spoke to members of the sociology class of his local high school on Friday, November 19. Dr. Mercer discussed the subject of "Socialized Medicine."

Dr. James C. Hill of Newton was the guest speaker for the Monroe Commercial Club on Friday, November 12. Dr. Hill chose for his subject "Medicine and Its Relation to Business."

Dr. E. D. Plass of the State University of Iowa, College of Medicine, addressed an open meeting of the Ottumwa Women's Club on Tuesday, November 23. Dr. Plass chose for his subject "Control of Cancer."

Dr. Samuel T. Gray, after practicing in Albia for the past forty-eight years, has left for New York City, where he will spend the winter months at the home of his son.

Three Mason City physicians furnished the program for the North Central District of the Iowa Hospital Association, when that organization met in Mason City on Wednesday, November 3. Dr. George M. Crabb is the leader for the North Central district, and Dr. Ralph Smiley spoke on "The Modern Hospital from the Viewpoint of the Doctor." Dr. Harold W. Morgan spoke on "The Hospital Laboratory and X-ray."

MARRIAGES

The marriage of Miss Sadie Combs and Dr. Charles S. Krause, both of Cedar Rapids, took place Monday, November 15, at the home of the bride's parents in Sigourney. Following a wedding trip by motor through the south and west, they will be at home in Cedar Rapids, where Dr. Krause has been engaged in the specialty of surgery for the past thirty years.

Mrs. Virginia Amsden Goen of Manchester and Dr. James E. Whitmire of Sumner were united in marriage Saturday, November 13, in Manchester. They will reside in Sumner, where Dr. Whitmire has been associated with his father in the practice of medicine for the past several years.

On Monday, November 8, Miss Geraldine O'Neil of Milwaukee, Wisconsin, and Dr. Ralph M. Laughlin of Tipton were united in marriage in Clinton. Following a short wedding trip, the young couple will make their home in Tipton, where Dr. Laughlin has recently located for the practice of medicine.

DEATH NOTICES

Augustine, Jasper L., of Ladora, aged sixty-nine, died November 3, following a long illness due to Parkinson's disease. He was graduated in 1893 from the State University of Iowa, College of Medicine, and at the time of his death was a life member of the Iowa County and Iowa State Medical Societies.

Christensen, Christen Jensen, of Jewell, aged sixty-three, died November 8, of pneumonia. He was graduated in 1902 from the State University of Iowa, College of Medicine, and at the time of his death was a member in good standing of the Hamilton County Medical Society.

Cutler, Frank Ross, of Cedar Falls, aged forty-nine, died November 4, of pneumonia and complications. He was graduated in 1912 from the State University of Iowa, College of Medicine, and at the time of his death was a member in good standing of the Black Hawk County Medical Society.

Frazier, James William, of Honey Creek, aged seventy-seven, died November 21, following a short illness. He was graduated in 1887 from the University of Nebraska, College of Medicine, and at the time of his death was a member in good standing of the Pottawattamie County Medical Society.

Fry, Jay Worth, of Creston, aged sixty-two, died November 6, following a stroke of apoplexy. He was graduated in 1897 from the University of Nebraska, College of Medicine, and at the time of his death was a member in good standing of the Union County Medical Society.

Long, William Ernest, of Mason City, aged sixty-six, died November 25, following a cerebral hemorrhage. He was graduated in 1899 from the University of Illinois, College of Medicine, and at the time of his death was a life member of the Cerro Gordo County and Iowa State Medical Societies.

Penquite, Harry Hazelton, of Massena, aged fifty-one, died November 16, following a heart attack. He was graduated in 1909 from Drake University, Col-

lege of Medicine, and at the time of his death was a member in good standing of the Cass County Medical Society.

Shipley, William M., of Ottosen, aged sixty-four, died October 30, following a long illness. He was graduated in 1898 from Drake University, College of Medicine, and had long been a member of the Humboldt County Medical Society.

Wilson, Edmund Willoughby, formerly of Rolfe, aged seventy, died in San Diego, California, following a long illness due to heart disease. Dr. Wilson was graduated in 1896 from the State University of Iowa, College of Medicine, and had long been a member of the Pocahontas County Medical Society.

MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

Meeting of the Fracture Committee

Hotel Fort Des Moines, Des Moines, Iowa

November 17, 1937

The Fracture Committee of the Iowa State Medical Society met at the Hotel Fort Des Moines in Des Moines Wednesday, November 17, for an all-day clinic and organization meeting. There were present, in addition to the central committee, delegates from fifty-three counties, and guests, making a total of seventy physicians.

After the program of talks and demonstrations, the organization meeting was called to order by Dr. Donald C. Conzett of Dubuque, chairman of the Fracture Committee. The purpose of the committee was explained, and the set-up in other states presented. A discussion of plans for the Iowa State Fracture Committee followed, and it was decided that since the purpose of the committee was to arouse more interest in the treatment of fractures, and help in a program of education as to proper treatment, each delegate should make a full report of the meeting to his county society. He should also send to the chairman any suggestions made in his society which would help in this educational work. It was decided to hold an exhibit at the annual meeting of the State Society, at which time demonstrations of splinting and the use of plaster could be given. The idea of holding a yearly meeting in November, with an all-day clinic, was felt to be worthwhile, and it was voted to continue on this plan.

It was suggested that the Fracture Committee contact the Iowa morticians, since their ambulances are usually called in the case of accidents, to determine if they would be willing to equip their ambulances with Thomas splints, and to let the county medical societies instruct their drivers in proper first aid treatment. The committee also voted to endorse any organization devoted to rendering first aid. Meeting adjourned at five p. m.

HISTORY OF MEDICINE IN IOWA

Edited by the Historical Committee

DR. FRANK M. FULLER, Keokuk

DR. JOHN T. MCCLINTOCK, Iowa City

DR. R. T. LENEGHAN, Clinton

DR. TOM B. THROCKMORTON, Des Moines

DR. WALTER L. BIERRING, Des Moines

DR. WILLIAM JEPSON, Sioux City

The Story of Bacteriology at the University of Iowa

(Concluded)

WALTER L. BIERRING, M.D., Des Moines, Iowa

The first of the Pasteur courses in practical bacteriology began on March 15, 1895, and continued for one month. Although arranged for a shorter period they were patterned after the course in bacteriology given the previous year at the Pasteur Institute in Paris, the forenoons being devoted to explanatory lectures and demonstrations and the afternoons to practical exercises.

The first class is shown in the accompanying illustration presenting also a view of the bacteriologic laboratory. This was the laboratory in which the undergraduate courses in pathology and bacteriology were conducted from 1893 until March, 1901, when the building was destroyed by fire. During the six years that the courses in practical bacteriology were held, the annual average enrollment was twenty members, and included senior medical students as well as graduates in medicine and several members of the medical faculty. An interesting member of the first class was Mr. William P. Hohenschuh of Iowa City, who later gained a national reputation as a lecturer of scientific embalming. He had previously completed a course in practical anatomy, and with the additional knowledge of the bacteriology of fermentation, decomposition and infectious diseases, he was able to publish several new textbooks which are still used by students of embalming. Dr. E. W. Rockwood, professor of physiologic chemistry, and Dr. John W. Harrison, professor of anatomy, were members of the class in 1897. Others who are recalled include Doctors Eli Grimes, Frank A. Ely and Ralph H. Parker of Des Moines, M. J. Kenefick of Algona, C. W. McLaughlin of Washington, C. F. Noe of Amana, Victor W. Byrnes of Durant, J. W. Bowen of Dickinson, North Dakota, C. B. Blake of Jefferson, E. H. Dwelle of Northwood, J. F. Hull of Washington, John R. Gardner of Lisbon, C. E.

Dakin of Mason City, C. Van Epps of Iowa City, G. H. Sumner of Waterloo, and others who later attained leadership in Iowa medicine*.

Dr. William Otis Lillibridge, D.D.S., was a member of the class of 1898. He later became known as a writer of fiction, his works including *Ben Blair*, *The Trail of the Prairie*, and other stories of the western prairies. The assistants in these courses were Lee Wallace Dean, 1895 and 1896, Eli Grimes, 1896 and 1897, and John T. McClintock, who served during the last four years of the course from 1898 to 1901. Dr. McClintock later became professor of physiology and Junior Dean of the College of Medicine. The Pasteur courses in practical bacteriology constituted the first example of postgraduate instruction in the University Medical School and had a definite influence in stimulating graduate courses in other departments.

In 1896 the writer was afforded another opportunity for graduate study in European centers, sailing from New York, April 18, 1896, via the Mediterranean route, and visiting the medical institutes of Rome, Florence, Zurich, Munich, and Heidelberg, with a more prolonged stay in Vienna and Paris and a shorter period in London. There was a natural interest attending a return visit to the teachers and laboratories where former work had been done, and a special thrill to come again to the Pasteur Institute in Paris. The cordial greeting by Dr. Roux and his associates Metchnikoff and Borrel was saddened by the thought that the great master was present only in spirit; Pasteur had died the previous September. Soon after the writer arrived Dr. Roux acted as guide to the beautiful Tomb of Pasteur, located in the Institute, which seemed a fitting resting

* The medical building fire of March 10, 1901, destroyed all class records.



First Class 1895. Pasteur Course in Practical Bacteriology

Hohenschuh	Grimes	Tapper	Matson	Kegel	Knapp	Brewer	Dean	Bierring
McLaughlin		Close	Bellin	Mann	Lodge	Byrnes	Smith	

place for one who had so profoundly influenced human events and inspired scientific medicine in every field. Progress in bacteriologic research was evident everywhere, particularly in the allied sciences of immunology, biochemistry and pathology as well as in its relation to clinical medicine. Returning with renewed enthusiasm gave to teaching a new impetus, and aside from its influence on undergraduate instruction, stimulated further special studies in applied bacteriology. A number of theses, required for graduate degrees in science, were based on studies in the department of bacteriology, among which was the work on bacteriology of the eye by Gordon F. Harkness. The bacteriology of water was studied in conjunction with the University department of engineering. The rôle of bacteria in the arts and industries formed an interesting study, the results being presented before the Baconian Club. Formaldehyde had been proposed with considerable enthusiasm as a gaseous disinfectant in place of sulphur fumigation for public health purposes. Although known to possess active germicidal properties in the laboratory when brought in direct contact with infectious micro-organisms, it was felt that formaldehyde might fail signally when applied on a larger scale or for practical purposes. Various tests were carried out to de-



Morgan	Gardner	Class of 1897	Wright	Bowers
	Ely	Walker	Bierring	Rogers
	Blake	Rockwood	Hull	Miss Schell
Mueller		Grimes	McClintock	Noe
			Harriman	Dwelle

termine the germicidal properties of formaldehyde in solution for the disinfection of instruments and as a deodorant. In the pure gaseous state it proved to be a satisfactory agent for the disinfection of rooms and wards. The results of this work were published collaterally with Professor Rockwood in two articles.*

* 1. Bierring, Walter L.: Formaldehyde as a practical disinfectant. Jour. Am. Med. Assn., xxx:1038-1041 (April 30) 1898.
2. Rockwood, Elbert W.: The limitations of formaldehyde in disinfection. Ibid.

With the development of the first University Hospital in 1899-1900, increasing opportunity was offered for the application of bacteriologic methods in clinical diagnosis. Blood cultures in pneumonia, typhoid fever, and septic infections with septicemia became a regular procedure whenever possible.

In the early morning of March 10, 1901, fire broke out in the lower floor of the medical building, and within a few hours the first medical college building erected in Iowa, with all its valuable contents, was a mass of charred ruins and ashes. The large amount of alcohol stored in the pathologic museum produced a bright white blaze, and against a background of snow and ice the picture formed an interesting sight.

The calamity of this destructive fire seemed for the moment to blast all hopes and plans for the future of the medical school. Yet destiny willed it otherwise, that Phoenix-like, a new institution would rise from the ashes greater than before. Even before the smoke had cleared away Dean Middleton called a meeting to arrange for quarters for the next session, and to petition the legislature



General Medical Building, 1882-1901

for the necessary appropriation to provide for a new building. A further action at this meeting was to designate the writer to proceed to European medical centers to procure the necessary laboratory equipment, anatomic and pathologic specimens, in preparation for the next school year as well as plans for modern laboratory buildings to be erected. This commission was an interesting experience, because it offered the rare opportunity to build again from the beginning. While deeply regretting the loss of precious specimens and other treasures which could never be restored, there was a distinct attraction about starting anew with all the modern facilities available at that time. Anatomic models and specially mounted dissections, prepared by Professor Spalteholz, were obtained through the Institute

of Anatomy in Leipzig. The stay in Berlin, while looking for pathologic material, included the privilege of a last visit with Professor Rudolph Virchow, and to attend one of the last autopsy examinations under his direction, since his death occurred within the year.

A very complete collection of specimens of gross pathology prepared by the Kaiserling method, comprising nearly every tissue and organ was obtained in Vienna. Tissue material for the courses in pathologic histology was also included. The Kral Institute of Bacteriology in Prague supplied a complete collection of bacterial stock cultures. The copies of plans of the new medical laboratories at Munich, the Serum Institutes at Bern and Vienna, the Pasteur Institute in Paris, and several new laboratories at the University College in London served as models for the subsequent construction of laboratory buildings at the University of Iowa. It was decided to purchase all equipment in the form of microscopes, incubators, museum jars and glassware in this country.

All of the material and equipment arrived after the writer returned in August, and was installed in the lower floor of the new Hall of Liberal Arts where appropriate rooms had been provided. With the opening of the college session in September, 1901, the courses in pathology and bacteriology continued as before, being conducted in this building during two college sessions, the academic year having been lengthened from six to nine months. At the legislative session of 1902 an appropriation was granted sufficient for two buildings to be constructed at the corner of DuBuque and Jefferson Streets, one building for the department of anatomy, and another for the departments of pathology, bacteriology, physiology, pharmacology, physiologic chemistry, and the pathologic museum. The Hall of Anatomy was completed and occupied in 1903, and the larger laboratory building one year later. The writer was destined not to teach in the new laboratories as the turn of events in 1903 brought about his transfer to the department of theory and practice of medicine and clinical medicine. A former special student and assistant, Dr. Henry Albert, who had just completed a year of special European study, was elected to the professorship of pathology and bacteriology. He entered upon his new duties at the opening of the fall term in 1903.

During the following year 1904-5 the State Legislature established the bacteriologic laboratory of the State Board of Health at Iowa City, and Dr. Albert was chosen as the first director. This afforded an opportunity for his rather remarkable faculties of organization. The diphtheria

culture sets, outfits for the Widal test for typhoid, sputum containers, and complete directions for inaugurating the extensive diagnosis system now



Hall of Anatomy
1900-1927

General Laboratory Building
1903-1927

in general use were all devised by Dr. Albert. This new departure distinctly determined the future trend and status of bacteriology. Under the influence of the rapidly developing science of immunology, and later of serology, bacteriology was undergoing a transformation. With the increasing prevalence of tropical diseases, parasitology was given a new importance. Epidemiology and the control of infectious diseases gradually related bacteriology more closely to public health and preventive medicine. Pathology was likewise undergoing a change; it began to be recognized as the link between the preclinical and clinical sciences, and became therefore more closely in-



Medical Laboratories Building, 1927

tegrated with clinical medicine. These tendencies naturally foreshadowed a separation of pathology and bacteriology, but it was not until 1933 that separate departments were established at the University of Iowa. The diagnosis of rabies by the demonstration of the Negri bodies in the pyramidal cells of the brain of dogs infected with the disease was instituted at the bacteriologic laboratory in 1906, and in 1910 the Wassermann sero-

logic test for syphilis was introduced. In following years the detection of diphtheria and typhoid carriers constituted a definite aid to public health investigations throughout the state. In 1926 the first case of undulant fever or brucellosis in Iowa was reported by Dr. L. R. Woodward of Mason City. The bacteriologic investigations conducted by Dr. A. V. Hardy and associates, Dr. Carl F. Jordan and Dr. I. H. Borts, in this first case, and the large number of subsequent cases reported in the state, distinctly contributed to the existing knowledge of this disease.

After eighteen years of successful teaching service Dr. Albert was granted a leave of absence for rest and recuperation in California to obtain relief from a chronic throat affection. He fully recovered, but chose to remain in a more favorable climate, later accepting the appointment as State Bacteriologist of Nevada. In 1926 he was recalled to Iowa as State Commissioner of Health in which position he rendered most efficient service to the people of his native state until his untimely death in 1930.

Following Dr. Albert as professor of pathology and bacteriology, Dr. Edgar Mathias Medlar served as acting head of the department from 1921 to 1923; Dr. Frederick William Mulsow from 1923 to 1925, and Dr. George Henry Hansmann from 1925 to 1930. In 1930 Dr. Harry Pratt Smith was appointed to the professorship of pathology and bacteriology, and on July 1, 1933, bacteriology was transferred to the department of hygiene and preventive medicine under Professor M. E. Barnes, where it remained until June 30, 1937. According to advice from Dean E. M. MacEwen the department is now in the process of reorganization.

The State Legislature in 1937 provided adequate funds for greatly enlarging the facilities of the State Hygienic Laboratory of the State Department of Health at Iowa City, enabling the inauguration of a statewide free diagnostic laboratory service for the study and investigation of all infectious diseases occurring in Iowa, including the dark field examinations and serologic tests of syphilis. It is interesting to note that the writer as State Commissioner of Health has again become closely connected with the laboratory service at Iowa City.

The development of bacteriology at the University of Iowa bears a significant correlation to the continued growth of the college of medicine and the evolution of medical knowledge during the past forty-five years. To all who were privileged to have a part in this "story", it will be a constant source of pride.

THE JOURNAL BOOK SHELF

BOOKS RECEIVED

THE BUSINESS SIDE OF MEDICAL PRACTICE—By Theodore Wiprud, executive secretary of the Medical Society of Milwaukee County. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$2.50.

CRIPPLED CHILDREN—Their Treatment and Orthopedic Nursing—By Earl D. McBride, M.D., assistant professor of orthopedic surgery, University of Oklahoma, School of Medicine. Second edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.50.

A DIABETIC MANUAL—By Elliott P. Joslin, M.D., clinical professor of medicine, Harvard Medical School. Sixth edition, thoroughly revised; illustrated. Lea and Febiger, Philadelphia, 1937. Price, \$2.00.

DISEASES OF THE SKIN—By Oliver S. Ormsby, M.D., clinical professor and chairman of the department of dermatology, Rush Medical College of the University of Chicago. Lea and Febiger, Philadelphia, 1937. Price, \$12.00.

EYESTRAIN AND CONVERGENCE—By N. A. Stutterheim, M.D., part time ophthalmic surgeon to the Johannesburg School Clinic, Transvaal Education Department. H. K. Lewis and Company, Ltd., London, 1937. Price, 7s.6d. net.

EXTERNAL DISEASES OF THE EYE—By Donald T. Atkinson, M.D., consulting ophthalmologist to the Santa Rosa Infirmary, San Antonio, Texas. Illustrated with 494 engravings. Lea and Febiger, Philadelphia, 1937. Price, \$8.00.

GENERAL HYGIENE AND PREVENTIVE MEDICINE—By John Weinziel, M.S., Ph.D., Dr. P.H., late professor of bacteriology and director of the Alice McDermott Foundation of the University of Washington. Lea and Febiger, Philadelphia, 1937. Price, \$4.00.

INTERNATIONAL CLINICS, Volume III, Forty-seventh Series—Edited by Louis Hamman, M.D., Johns Hopkins Hospital, Baltimore. J. B. Lippincott Company, Philadelphia and London, 1937.

METHODS OF TREATMENT—By Logan Clendening, M.D., clinical professor of medicine, Medical Department of the University of Kansas. Sixth edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$10.00.

THE MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS—By John Albert Key, M.D., clinical professor of orthopedic surgery, Washington University School of Medicine; and H. Earle Conwell, M.D., Birmingham, Alabama. Second edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$12.50.

MATERIA MEDICA, PHARMACOLOGY, THERAPEUTICS AND PRESCRIPTION WRITING—By Walter A. Bastedo, M.D., consulting physician, St. Luke's Hospital, New York. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$6.50.

SYNOPSIS OF GENITO-URINARY DISEASES—By Austin I. Dodson, M.D., professor of surgery, Medical College of Virginia, Richmond. Second edition, with 112 illustrations. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.00.

A TEXTBOOK OF MEDICINE—By American Authors. Edited by Russell L. Cecil, M.D., professor of clinical medicine, Cornell University Medical College. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$9.00.

TWEEDY'S PRACTICAL OBSTETRICS—Revised and largely rewritten by Bethel Solomons, M.D., gynecologist, Dr. Steevens' Hospital, Dublin. Seventh edition. Oxford University Press, London and New York, 1937. Price, \$8.75.

BOOK REVIEWS

COLLECTED PAPERS OF THE MAYO CLINIC

Edited by Richard M. Hewitt, M.D., Lloyd G. Potter, and A. B. Neveling, M.D., Volume XXVIII. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$12.00.

This volume is another valuable contribution to the medical world. The articles are concise and extremely well written, covering surgical, medical and research problems.

The volume is divided into the following various branches: the alimentary tract; ductless glands; genito-urinary organs; blood and circulatory organs; skin and syphilis; head, trunk and extremities; chest; brain, spinal cord, nerves; radiology and physical medicine; anesthesia; technic; and miscellaneous.

The 1937 volume is so written that it appeals to the general practitioner as well as the specialist. The vast amount of material examined and the records so carefully checked by various authors contributing articles in this book make it almost an encyclopedia of medicine and a most valuable addition to the library of the up to date physician. L. D. P.

DR. COLWELL'S DAILY LOG FOR PHYSICIANS

A brief, simple, accurate financial record for the physician's desk. Colwell Publishing Company, Champaign, Illinois, 1937.

The 1938 edition of The Daily Log is the eleventh annual edition of a very useful volume. It provides adequate space for daily entries in the average prac-

tice of one calendar year. With the exception of the ledger it constitutes a complete financial record. Each page provides spaces for thirty-six daily entries with columns for name of the patient, type of service rendered, the charge, cash received, and payment on account. There is also provided space for a monthly summary of the daily entries.

In addition to the monthly summary of the above mentioned sections, there is a detailed expense sheet and balance sheet. Additional record forms are included for personal income tax notations, narcotic preparations, surgical operations, et cetera.

The volume is edited in loose leaf style so that additional pages may be added and it is bound in an attractive fabricoid cover. This record should simplify the physician's bookkeeping and prove adequate for the average practice. D. H. K.

PHYSICAL DIAGNOSIS

By Ralph H. Major, M.D., professor of Medicine, University of Kansas. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$5.00.

Today, when everything tends toward specialization, to the increased use of x-ray and laboratory procedures, one is likely to overlook the importance of physical diagnosis. We may not fully appreciate the fact that symptoms have a physical cause.

In this book Dr. Major covers and presents his experience of fifteen years, discussing the signs in the light of their physical causation, as well as interpreting them in terms of their underlying pathology. There is an abundance of quotations from early de-

scriptions written by the masters in physical diagnosis many years ago. These quotations impress one with their power of observation and description, stimulating those of us who are in active practice. In addition the book has many excellent illustrations to clarify specific points. Thus it is of special value to the student who, for the first time, enters this field.

The reviewer highly recommends the book to both the student and general practitioner. E. E. K.

OBSTETRIC AND GYNECOLOGIC NURSING

By Frederick H. Falls, M.D., professor of obstetrics and gynecology, University of Illinois, College of Medicine, and Jane R. McLaughlin, R.N. Illustrated. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.00.

This is a textbook for student nurses covering the care of both the obstetric and gynecologic patient. While the anatomy, physiology, pathology, signs, symptoms, diagnosis and treatment of the various conditions are amply discussed, emphasis is placed on the nurse's part in their care. The printing and illustrations are nicely done and make for easy reading. It should prove to be an excellent textbook.

A. D. J.

THE LARYNX AND ITS DISEASES

By Chevalier Jackson, M.D., and Chevalier L. Jackson, M.D., Temple University, Philadelphia. 555 pages with 221 illustrations. W. B. Saunders Company, Philadelphia and London, 1937. Price, \$8.00.

This volume is a complete symposium in laryngeal conditions. It not only covers diagnosis and treatment, but details technic much as an architect's blueprint covers construction. Minute points are covered, even to the technic for smoking a cigarette to avoid laryngeal irritation.

The anatomy and physiology of the larynx are covered thoroughly and in understandable terms. The differential points in laryngeal neuroses and paralyses clarify many hazy places in diagnosis. The subject of congenital and acquired malformations, as well as injuries and wounds of the larynx, are discussed in detail. The chapters on hoarseness, especially in its relation to cancer, are of particular interest to the general practitioner. He will also be interested in the laryngeal signs and symptoms in general diseases. The pediatrician will derive much information from the chapters on acute inflammatory diseases of the larynx, with special reference to the croup, stridor, and cardiac exhaustion syndrome in laryngeal and subglottic edemas. For the laryngologist, the detailed accounts and experiences of the authors, as well as the references and quotations of the observations of other authorities, make it a working handbook of superior character.

The irradiation treatment, as well as the pre- and

postoperative surgical care of tumors, both benign and malignant, is especially valuable for anyone dealing with laryngeal conditions. The subject of laryngeal stenosis, with definite instructions as to how to avoid its occurrence and the cure by dilatation or external operation, is discussed at length. While the subject of tracheotomy has been covered in the author's previous texts, its repetition with additions, especially on the after-care of tracheotomized patients, will help one avoid the pitfalls of such a procedure and its needless mortality.

The profusion of charts and pictures, as well as the excellent color plates by the senior author, depict pictorially the conditions which the text so accurately describes.

J. A. D.

SAFELY THROUGH CHILDBIRTH

By A. J. Rongy, M.D., attending obstetrician and gynecologist, Lebanon Hospital. Illustrated. Emerson Books, Inc., 251 West 19th Street, New York, 1937. Price, \$2.00.

This is a book written for those expectant mothers who want to know something of the process through which they are going. It is simply and clearly written and describes the changes which take place from the time of conception until involution is complete. From it the woman will learn what she is expected to do and also what she may and should expect of her physician.

A. D. J.

MANUAL OF THE DISEASES OF THE EYE

By Charles H. May, M.D., consulting ophthalmologist to Bellevue, Mt. Sinai, and French Hospitals, New York. Fifteenth edition, revised. William Wood and Company, Baltimore, 1937. Price, \$4.00.

This work is still the standard for teaching purposes and is a complete, concise reference for the general practitioner. The reason this book has been so universally accepted is that its contents are systematically arranged, practical, concise, up-to-date, and yet it is limited in size; enough is said, but not too much, so that it is sufficiently comprehensive.

The ways and means of examination of the eye, essential to the determination of its condition, are described in detail with illustrations, ranging from inspection, palpation, ophthalmoscopic determination of visual acuity and fields, and the use of the slit lamp. The more common affections or diseases of the eye which the general physician is called upon to diagnose and treat rather frequently, are described at length. The more rare conditions are merely mentioned, it being the author's opinion that such are of interest only to the ophthalmologist who depends upon more comprehensive texts as reference books. The chapter on ocular therapeutics is complete and up to date. The last chapter, relative to ocular manifestations of systemic diseases, is worthy of being reviewed annually by both the ophthalmologist and general physician.

All in all, this book belongs at the elbow of every practitioner of medicine.

C. C. J.

AN INTRODUCTION TO DERMATOLOGY

By Richard L. Sutton, M.D., professor of Dermatology, University of Kansas, School of Medicine; and Richard L. Sutton, Jr., M.D., Instructor in Dermatology, University of Kansas, School of Medicine. Third edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.

This book is an excellent one for students and for physicians in general practice, because it has been simplified and condensed to a considerable degree. Each disease is outlined, with the synonyms, symptoms, etiology, pathology, diagnosis, prognosis and treatment being given in a very practical manner. The general makeup of the book has been improved. The size of the page is smaller, and the number of pages have been decreased, which are decided improvements over previous editions. M. H. N.

THE TECHNIC OF LOCAL ANESTHESIA

By Arthur E. Hertzler, M.D., professor of surgery, University of Kansas, Sixth edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$5.00.

A knowledge of local anesthesia should be a part of the armamentarium of every surgeon. Much minor surgery may be as well done by local as by general anesthesia and there are often occasions in major surgery where other types of anesthesia are contraindicated, in which a skillful use of a local anesthesia allows a successful result. In this book the subject of local anesthesia is discussed completely. The author's comments on the technic of administration and the use of local anesthesia for certain operations is very much to the point. The chapter on spinal anesthesia is very good. That on intravenous anesthesia is obsolete. This book is a worthwhile addition to any surgeon's library. A. D. J.

SYNOPSIS OF GYNECOLOGY

By Harry Sturgeon Crossen, M.D., professor emeritus of clinical gynecology, Washington University School of Medicine; and Robert James Crossen, M.D., assistant professor of clinical gynecology and obstetrics, Washington University School of Medicine. Second edition. The C. V. Mosby Company, St. Louis, 1937. Price, \$3.00.

This little book is especially valuable to the busy practitioner. It is concise, complete, and up to date. The anatomy and physiology of the female reproductive organs are given with a discussion of their endocrine functions. Methods of examination, gynecologic diagnosis and technic of treatment are stated clearly and briefly. The final chapters deal with preoperative and postoperative care. The book is well illustrated. A. D. J.

ANNUAL REPRINTS OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY

of the American Medical Association for 1936, with the comments that have appeared in the *Journal*. American Medical Association, Chicago, 1937. Price, \$1.00.

This book is essentially a record of the negative actions of the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be unacceptable for recognition and use by the medical profession. Many of the reports record outright rejection or the rescinding of previous acceptances; others report in a preliminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

Among the reports on unacceptable products are Amend's solution and the "igol" products, iodine preparations marketed under misleading or unacceptable claims, the latter under an uninformative proprietary name; androstine-Ciba, claimed to be a testicular extract and found to be an irrational combination of inactive preparations, marketed with unwarranted and misleading claims; gadoment, a preparation of cod liver oil in a wax base with zinc oxide benzoin and phenol, proposed for use in the treatment of burns, cuts and minor skin irritations, found unacceptable as being an unoriginal product of insufficiently declared composition marketed under a coined proprietary name with unwarranted therapeutic claims, and indirectly advertised to the public; the "carasyl" preparations which are essentially mixtures of psyllium flour, karaya gum and fig flour, marketed with unsubstantiated therapeutic claims under a proprietary name.

In 1934 the Council sponsored an exhaustive report on bacteriophage therapy pointing out that in view of the present status of knowledge, no such preparations could be accepted for new and nonofficial remedies. In this volume the Council declares the "phagoid" preparations, a line of bacteriophage products, definitely unacceptable because they are offered to the medical profession with unscientific, unwarranted claims, thus encouraging physicians to use these medicaments in a routine way before their therapeutic value had been established, and because the preparations conflicted in other ways with the rules of the Council. Also included in this volume is a report on the unacceptability of two trichophyton preparations, dermatomycol and dermatricofitin, distributed in this country by Ernst Bischoff Co., Inc., under the stated proprietary names without sufficiently declared composition and with unwarranted therapeutic claims.

Other preliminary reports are on refined and concentrated antipneumococcic serum, Type VII, Lederle; the present status of tetrachlorethylene (since accepted for N. N. R.); smallpox vaccine (from chick chorio-allantoic membrane), Lilly; and the use of trichlorethylene for general anesthesia.



